

**THE PLANNING OF NEW TOWNS IN
DEVELOPING COUNTRIES:
THE GAP BETWEEN AIMS AND
ACHIEVEMENTS**

**Hala Malandi
B.A. Arch, M.Sc.**

**A Thesis Submitted in Partial Fulfillment of the
Requirements of Liverpool John Moores University
for the Degree of Doctor of Philosophy**

MARCH 2005

Contents	Page No
Contents.....	i
List of Figures.....	v
List of Tables.....	viii
Acknowledgement.....	x
Abstract.....	xi
 Part One: Literature Review	
 Chapter 1:	
Introduction and Overview	1
1.0 Introduction.....	2
1.1 Background.....	2
1.2 The Research Aims and Objectives.....	4
1.3 The Structure of the Thesis.....	6
 Chapter 2:	
The Idea of New Towns.....	9
2.0 Introduction.....	10
2.1 Historical Background.....	11
2.2 Howard's Garden City.....	12
2.3 Theories of Planning New Towns.....	20
2.3.1 The Rational process.....	20
2.3.2 Government Policy Action and the legislative framework.....	24
2.3.3 Planning Process.....	25
2.3.4 Implementation Process.....	29
2.4 The Planner's Role.....	31
2.5 Financing the Managing New Towns' Developments.....	32
2.6 The 'Dynamics' of New Towns.....	35
2.6.1 The Importance of Population Structure.....	35
2.6.2 The Importance of Employment Structure.....	38
2.7 Conclusion.....	39
 Chapter 3:	
New Towns in Developed Countries.....	41
3.0 Introduction.....	42
3.1 The Experience of Britain.....	42
3.1.1 Introduction.....	42
3.1.2 British New Towns' Managing and Financing System.....	47
3.1.3 British New Towns' Characteristics.....	48
3.1.4 Conclusion.....	58
3.2 The Experience of France.....	61
3.2.1 Introduction.....	61
3.2.2 French New Towns' Organizations and the Financing System.....	65
3.2.3 French New Towns' Characteristics.....	67
3.2.4 Conclusion.....	73
3.3 Other Countries' Experiences in the Developed World.....	75
3.4 General Conclusion.....	79

Chapter 4:	
New Towns in Developing Countries (Middle East and North Africa).....	83
4.0 Introduction.....	84
4.1 The Experience of Saudi Arabia.....	89
4.1.1 Introduction.....	89
4.1.2 Saudi Arabia New Towns Managing and Financing System.....	93
4.1.3 Saudi Arabia's New Towns Characteristics.....	94
4.1.4 Conclusion.....	99
4.2 The Experience of Algeria.....	100
4.2.1 Introduction.....	100
4.2.2 Algerian New Towns Managing and Financing System.....	104
4.2.3 Algerian New Towns Characteristics.....	106
4.2.4 Conclusion.....	111
4.3 Other Developing Countries Experiences of New Towns.....	113
4.4 General Conclusion.....	115
Chapter 5:	
The Experience of Egypt (Field Study).....	118
5.0 Introduction.....	119
5.1 Background about Egypt.....	120
5.1.1 Liberal Government and Economic Politics in Egypt.....	120
5.1.2 Demography and Topography in Egypt.....	121
5.2 The Greater Cairo Region (GCR).....	124
5.2.1 Stages of Cairo's Urban Growth.....	125
5.2.3 The Problem of Excessive Population Growth in GCR.....	127
5.2.4 The Three Governorates of GCR.....	130
5.2.5 Planning Policies and Master Plans of GCR since the 1950s.....	131
5.3 New Towns Policy.....	137
5.3.1 Reasons for the Construction of New Towns in Egypt.....	139
5.3.2 Aims and Objectives of Egyptian New Towns.....	140
5.3.3 Managing and Financing New Towns in Egypt.....	141
5.3.4 Generations of New Towns in Egypt.....	144
5.4 Conclusion.....	150
 Part Two: Empirical Research	
Chapter 6:	
The Research Methodology.....	153
6.0 Introduction.....	154
6.1 Literature Survey.....	158
6.2 Field Survey Studies.....	161
6.2.1 Documentation.....	163
6.2.2 Interviews.....	163
6.2.3 Observations and Visual materials (Photographs).....	177
6.3 Data Analysis.....	178
6.3.1 The 'SPSS for Windows'.....	178
6.3.2 The 'GIS' (Geographical Information System).....	181
6.4.3 The Researcher.....	183

Chapter 7:	
Tenth of Ramadan New Town (First Case Study).....	185
7.0 Introduction.....	185
7.1 Aims and Planning Concepts of Tenth of Ramadan Town.....	187
7.2 Financing and Investment in the Tenth of Ramadan.....	190
7.3 Tenth of Ramadan Components (Comparison between Target and Achievement).....	191
7.3.1 Population.....	191
7.3.2 Housing.....	194
7.3.3 Industrial Area.....	201
7.3.4 Employment and Job-Opportunities.....	204
7.3.5 Commercial and Public Services.....	206
7.3.6 The Infrastructure.....	210
7.3.7 Social Relations and Local Environment Characteristics.....	214
7.3.8 Intention of Staying in the Town.....	214
7.4 Testing the Effect of Some factors on Town's Life	218
7.5 Conclusion.....	224
Chapter 8:	
Badr New Town (Second Case Study).....	228
8.0 Introduction.....	228
8.1 Aims and Planning Concepts of Badr Town.....	230
8.2 Financing and Investment in Badr Town.....	232
8.3 Badr Components (Comparison between Target and Achievement).....	233
8.3.1 Population.....	234
8.3.2 Housing.....	236
8.3.3 Industrial Area.....	245
8.3.4 Employment and Job-Opportunities.....	246
8.3.5 Commercial and Public Services.....	248
8.3.6 Medical Resort and Tourism Areas.....	252
8.3.7 The Infrastructure.....	253
8.3.8 Social Relations and Local Environment Characteristics.....	256
8.3.9 Intention of Staying in the Town.....	258
8.4 Testing the Effect of Some Factors on Town's Life.....	260
8.5 Conclusion.....	266
Chapter 9:	
Shekh Zayed New Town (Third Case Study).....	269
9.0 Introduction.....	270
9.1 Aims and Planning Concepts of Shekh Zayed Town.....	271
9.2 Financing and Investment in Shekh Zayed Town	272
9.3 Shekh Zayed Town Components (Comparison between Target and Achievement).....	273
9.3.1 Population.....	274
9.3.2 Housing.....	276
9.3.3 Employment and Job-Opportunities.....	285
9.3.4 Commercial and Public Services.....	287
9.3.5 Tourism Area.....	291
9.3.6 The Infrastructure.....	291
9.3.7 Social Relations and Local Environment Characteristics.....	295

9.3.8 Intention of Staying in the Town.....	297
9.4 Testing the Effect of Some Factors on Town's Life.....	298
9.5 Conclusion.....	304

Part Three: Research Findings

Chapter 10:

Field Survey Analysis and Observations.....	308
10.0 Introduction.....	309
10.1 The Emerging Characteristics of a New Town itself.....	309
10.1.1 Location of New Towns.....	310
10.1.2 Overall Pattern and Distribution of Land Uses.....	316
10.1.3 Type and Mix of Housing.....	319
10.1.4 Economic Base and Employment Structure.....	321
10.1.5 Provision of Public Services	323
10.1.6 Transport Services and Facilities.....	325
10.1.7 Social Relations and Local Environment Characteristics.....	327
10.1.8 Number of Population and Intention of Staying in Towns.....	328
10.2 Factors shaping the Implementation Process of New Towns.....	329
10.2.1 Legal Powers Available to support Implementation.....	330
10.2.2 Organization and Management of the Implementation Process...	331
10.2.3 Financial Arrangements supporting Development.....	332
10.3 Conclusion.....	334

Chapter 11:

General Conclusion and Research Findings.....	338
11.0 Introduction.....	339
11.1 Lessons from Western Developed Countries Experience.....	339
11.2 Lessons from Eastern Developing Countries Experience.....	348
11.3 Findings of the Research Study.....	355
11.4 Conclusion.....	361

References.....	364
------------------------	------------

Appendix 1.....	377
------------------------	------------

Appendix 2.....	385
------------------------	------------

List of Figures	Page No
Figure 2.1. Howard's Garden City Plan; and One of its Six Wards in Details.....	15
Figure 2.2. Different Financial Resources of New Towns Programme.....	34
Figure 3.1. Map Showing the Location of New Towns in Great Britain.....	46
Figure 3.2. New Towns Surrounding London.....	49
Figure 3.3. Milton Keynes Town Master Plan.....	57
Figure 3.4. French New Towns Outside the Paris Region.....	68
Figure 3.5. Paris Region New Towns.....	70
Figure 3.6. Cergy-Pontoise Town Master Plan.....	71
Figure 4.1. Urban Areas in Countries of the Middle East and North Africa.....	86
Figure 4.2. Location of the New Towns in Saudi Arabia.....	92
Figure 4.3. Jubail Industrial Town Master Plan.....	97
Figure 4.4. Location of New Towns in Algeria.....	103
Figure 4.5. Plan of Boughzoul New Town.....	108
Figure 4.6. Comparison of New Towns Programme in Developing Countries of Different Economic Levels.....	116
Figure 5.1. Population Density in Different Areas in Egypt.....	122
Figure 5.2. Greater Cairo Region.....	125
Figure 5.3. Population Increase in GCR during 1907-1996.....	128
Figure 5.4. Development Corridors suggested in 1970 and 1983 GCR Master Plans.....	133
Figure 5.5. New Towns Around Greater Cairo (1997 Master Plan).....	137
Figure 5.6. Finance Resources of Egyptian New Towns.....	142
Figure 5.7. New Towns on the Map of Egypt.....	148
Figure 6.1. The Research Plan	162
Figure 7.1. Site Location of Tenth of Ramadan Town.....	186
Figure 7.2. Tenth of Ramadan Town Master Plan (The four stages).....	189
Figure 7.3. General View of the Tenth of Ramadan Town.....	189
Figure 7.4. Comparison study of town's components between Target and Achievement.....	192
Figure 7.5. Comparison between Population Targeted and Achieved.....	193
Figure 7.6. Respondent's Living Period in the Tenth of Ramadan Town.....	194
Figure 7.7. Percentages of Dwelling Types Selected in the Tenth of Ramadan Survey.....	195
Figure 7.8. Plan of Neighbourhood Unit in Tenth of Ramadan Town.....	196
Figure 7.9. Low-Income Group Level Dwelling Buildings.....	197
Figure 7.10. Middle-Income Group Level Dwelling Buildings.....	197
Figure 7.11. Physical Conditions of Dwellings in the Tenth of Ramadan Town...	199
Figure 7.12. Dwelling's Parking in the Tenth of Ramadan Town.....	199
Figure 7.13. Respondents' Attitudes Towards their Dwellings in the Tenth of Ramadan.....	200
Figure 7.14. Satisfaction with Home Characteristics in the Tenth of Ramadan.....	200
Figure 7.15. Respondents' Attitudes Towards Dwellings Price or Rent.....	201
Figure 7.16. Industrial Area in the Tenth of Ramadan Town.....	202
Figure 7.17. Cairo/Ismailia Road's Bridge on the Main Entrance of the Town.....	202
Figure 7.18. Respondents' Place and Type of work in the Tenth of Ramadan.....	205
Figure 7.19. Respondents' Opinions About the Availability of Job-Opportunities In the Tenth of Ramadan.....	206
Figure 7.20. Means of Transportation of Respondents.....	211
Figure 7.21. Social Relations in the Tenth of Ramadan Town Survey.....	215
Figure 7.22. Respondents Attitudes to their Neighbourhood in the Tenth of Ramadan.....	216
Figure 7.23. Respondents' Reasons for Coming to Live in Tenth of Ramadan	

Town.....	217
Figure 7.24. Respondents' Intention of Staying or Leaving the Tenth of Ramadan Town.....	218
Figure 7.25. Main Problems and Future Prospects in the Tenth of Ramadan.....	227
Figure 8.1. Site Location of Badr New Town.....	229
Figure 8.2. Badr Town Master Plan 1982 & Updated One 1995.....	232
Figure 8.3. Comparison Between Population Targeted and Achieved.....	234
Figure 8.4. Comparison Study of Town's Components Between Target and Achievement.....	235
Figure 8.5. Respondents' Living Period in Badr Town.....	236
Figure 8.6. Percentages of Dwelling Types Selected in Badr Town Survey.....	238
Figure 8.7. Water Leakage on External Walls of Dwelling Buildings in Badr Town.....	239
Figure 8.8. Low-Income Group Level Dwelling Buildings.....	239
Figure 8.9. Physical Conditions of Dwellings in Badr Town.....	240
Figure 8.10. Dwelling's Parking in Badr Town.....	241
Figure 8.11. Part of the Housing Area in Badr Town.....	241
Figure 8.12. Respondents' Attitudes Towards their Dwellings in Badr Town.....	242
Figure 8.13. Satisfaction with Home Characteristics in Badr Town.....	243
Figure 8.14. Middle-Income Group Level Dwelling Buildings.....	244
Figure 8.15. Respondents' Attitudes towards Dwellings Price or Rent.....	245
Figure 8.16. Respondents' Place and Type of Work in Badr Town Survey.....	247
Figure 8.17. Respondents' Opinions About the Availability of Job-Opportunities In Badr Town Survey.....	248
Figure 8.18. The Centre of One of Neighbourhood Units in Badr Town.....	250
Figure 8.19. Means of Transportation that Respondents are using to go to their Work.....	255
Figure 8.20. Social Relations in Badr Town Survey.....	257
Figure 8.21. Respondents Attitudes to their Neighbourhood in Badr Town Survey.....	258
Figure 8.22. Respondents' Reasons for coming to live in Badr Town Survey.....	259
Figure 8.23. Respondents' Intention of Staying or Leaving Badr Town.....	260
Figure 8.24. Main Problems and Future Prospects in Badr Town.....	268
Figure 9.1. Site Location of Shekh Zayed Town.....	270
Figure 9.2. Master Plan of Shekh Zayed Town.....	274
Figure 9.3. Comparison Between Population Targeted and Achieved in Shekh Zayed Town.....	274
Figure 9.4. Comparison Study of Town's Components between Target and Achievement.....	275
Figure 9.5. Respondent's Year of Transferring to Town.....	276
Figure 9.6. Percentages of Dwelling Types Selected in Shekh Zayed Town Survey.....	279
Figure 9.7. Plan of Neighbourhood Unit in 'Mohandiceen's Garden' Ward	279
Figure 9.8. Low-Income Group Level Dwelling Buildings.....	280
Figure 9.9. Middle -Income Group Level Dwelling Buildings.....	280
Figure 9.10. Physical Conditions of the Dwellings in Shekh Zayed Town Survey.....	281
Figure 9.11. Dwelling's Parking in Shekh Zayed Town Survey.....	281
Figure 9.12. Respondents' Attitudes Towards their Dwellings in Shekh Zayed Town Survey.....	282
Figure 9.13. Satisfaction with Home Characteristics in Shekh Zayed Town.....	283
Figure 9.14. Respondents' Attitudes Towards Dwellings' Price or Rent.....	283
Figure 9.15. Upper-Middle Income Group Level Dwelling Building	284
Figure 9.16. Upper-Income Group Level Dwellings with their gardens (Luxury Villas).....	284

Figure 9.17. Respondents' Place and Type of Work in Shekh Zayed Town.....	286
Figure 9.18. Respondents' Opinions About the Availability of Job-Opportunities in Shekh Zayed Town.....	287
Figure 9.19. (A in Figure 9.2) Entertainment Activities along the 26 th of July Road.....	291
Figure 9.20. Means of Transportation of Respondents.....	292
Figure 9.21. Internal Roads in a Housing Area in Shekh Zayed Town	293
Figure 9.22. Social Relations in Shekh Zayed Town Survey.....	296
Figure 9.23. Respondents Attitudes to their Neighbourhood in Shekh Zayed Town Survey.....	297
Figure 9.24. Respondents' Reasons for Coming to Live in Shekh Zayed Town Survey.....	298
Figure 9.25. Respondents' Intention of Staying in or Leaving Shekh Zayed Town.....	298
Figure 9.26. Main Problems and Future Prospects in Shekh Zayed Towns.....	306
Figure 10.1. Topography and Faults in Egypt.....	311
Figure 10.2. Land-Use in Egypt.....	312
Figure 10.3. Suitable Locations for New Towns in Egypt (example 1).....	314
Figure 10.4. Suitable Locations for New Towns in Egypt (example 2).....	315
Figure 11.1. Comparison Between London, Paris and Greater Cairo capitals and New Towns surrounding them.....	344

List of Tables	Page No
Table 2.1. Evolution of New Towns in Developed as well as Developing world..	19
Table 3.1. New Towns in Great Britain.....	45
Table 4.1. Level of Urbanization in Countries of Middle East and North Africa..	87
Table 4.2. Population Growth in Capital Cities of Middle East and North Africa.....	88
Table 5.1. Population and Annual Growth in Greater Cairo Region.....	131
Table 5.2. The 17 New Town Constructed in Egypt (Three Generations).....	149
Table 6.1. Comparison Between Targeted and Achieved Population in Egyptian New Towns.....	155
Table 6.2. Differences and Similarities of the Research Three Case Studies.....	157
Table 6.3. Different Types of Interviews in the Three Case Studies.....	177
Table 7.1. Land-Use of Built-Up Area in the Tenth of Ramadan Town.....	190
Table 7.2. Satisfaction with Shopping Facilities in Tenth of Ramadan Town Survey.....	207
Table 7.3. Satisfaction with Health Services in Tenth of Ramadan Town Survey..	208
Table 7.4. Satisfaction with Education Services in Tenth of Ramadan Town Survey.....	209
Table 7.5. Satisfaction with Cultural & Entertainment Services in Tenth of Ramadan Town Survey.....	209
Table 7.6. Satisfaction with Internal Transport facilities in Tenth of Ramadan Survey.....	212
Table 7.7. Satisfaction with External Transport to Cairo in Tenth of Ramadan Survey.....	213
Table 7.8. Relation Between Jobs Availability and Intention of Staying in the Town.....	219
Table 7.9. Relation Between Healthy Environment and intention of staying in Tenth of Ramadan Town.....	222
Table 7.10. Relation Between Intention of Staying in the Town and its Dwellings Situation.....	223
Table 8.1. Land-Use of Built-Up Area in Badr Town.....	231
Table 8.2. Satisfaction with Shopping Facilities in Badr Town Survey.....	249
Table 8.3. Satisfaction with Health Services in Badr Town Survey.....	250
Table 8.4. Satisfaction with Educational Services in Badr Town Survey.....	251
Table 8.5. Satisfaction with Cultural & Entertainment Services in Badr Town Survey.....	252
Table 8.6. Satisfaction with Internal Transport Infrastructure and Services in Badr Town Survey.....	253
Table 8.7. Respondents' Satisfaction with External Transport Connections to Cairo.....	254
Table 8.8. Relation Between Residents' Work Place and Intention of Staying in Badr Town.....	261
Table 8.9. Relation between Availability of Jobs and Intention of Staying in the Town.....	264
Table 8.10. Relation Between Dwelling Rent or Mortgage Payment and Intention of Staying in Badr Town.....	265
Table 9.1. Land-Use of Built-Up Area in Shekh Zayed Town.....	272
Table 9.2. Satisfaction with Shopping Facilities in Shekh Zayed Town Survey...	288
Table 9.3. Satisfaction with Health Services in Shekh Zayed Town Survey.....	289
Table 9.4. Satisfaction with Education Services in Shekh Zayed Town Survey....	289
Table 9.5. Satisfaction with Cultural & Entertainment Services in Shekh Zayed Town.....	290
Table 9.6. Satisfaction with Internal Transport Infrastructure and Services in	

Shekh Zayed.....	293
Table 9.7. Residents' Satisfaction with External Transport Connections to Cairo.....	294
Table 9.8. Relation Between Job Availability and Intention of Staying in Shekh Zayed	299
Table 9.9. Relation Between Healthy Environment in the Town and Intention of Staying in it.....	302
Table 9.10. Relation Between Satisfaction with Dwellings in Shekh Zayed Town and Intention of Staying in it.....	303
Table 10.1. Summery of Field Survey Findings in the Three Case Studies.....	318
Table 11.1. Comparison Between British, French, and Egyptian New Towns.....	340
Table 11.2. Comparison Between Saudi Arabia, Algeria, and Egyptian New Towns.....	349
Table 11.3. Gross Domestic Products express the Economic Level of Countries Studied.....	351
Table 11.4: Main Problems in the three Case Studies.....	355

Acknowledgement

I would like to thank Professor Chris Couch my supervisor for his advice, assistance, support and time contributed in the completion of the thesis. I am also grateful to Professor Ian Cook and Dr. Rafid Al khaddar for their information, comments and guidance throughout the development of this work, and also thanks to the staff in Liverpool John Moores University for their help and support.

In addition, I would like to thank members in Government institutions in Cairo for their help during my Research Visit to Egypt, in particular to Eng. Hanan Akel in the Ministry of Housing, Utilities and New Urban Communities for assistance and information provided about the case studies; and also my friends there for their efforts provided in doing the Field Survey.

Finally, I would like to thank my family: sister, brother, father and particularly my mother- the greatest mother in the world- for her support, patience and encouragement during the preparation of this thesis, to them I dedicate this work.

Abstract

Since the 1950s, many developing countries in the Middle East and North Africa have suffered from rapid urbanization and excessive growth of population in their biggest cities. In addition, there is an imbalance in population distribution with very high densities of developments near rivers and coasts and low levels of urbanization elsewhere. For instance, in Syria, the population is mainly concentrated in cities near the Mediterranean coast or along the Forat River; in Algeria, Morocco and Tunisia the population is similarly concentrated into a very small proportion of the land area along the coast. Therefore, governments in these countries frequently pursue policies intended to limit growth of metropolitan cities and to disperse population growth over a wider area. The use of growth poles and new towns concepts are typical of the policy instruments used. In this regard Egypt has gone further than any other country in the region. Since the 1970s it has developed 17 new towns and more are to be built by 2017. But it is found that there is a gap between the aims and the actual achievements of policy, as many of the Egyptian new towns have not yet achieved their population targets; further, there have been some problems with the levels of residents' satisfaction with housing, amenities, services and the local environment.

This thesis is concerned with the question of the reasons for the failure of Egyptian new towns to reach their targeted populations. It begins with a discussion of the idea of new towns and the experience of new towns in developed countries. This is complemented by a similar review of the more recent experience of new town development in countries of the Middle East and North Africa. This discussion provides certain ideas that are applied to the research question and tested through empirical work in Egypt. Recent trends in the urbanization of Egypt are discussed and the general nature of Egyptian new towns policy is established before a series of three detailed case studies of new towns developed in the Cairo region (Tenth of Ramadan, Badr and Shekh Zayed) provide empirical evidence of some of the reasons for failure. The thesis concludes that location, economic base and accessibility are all key factors in the success of new town development, as are the availability of adequate public and private sector resources and management capability. It is also important that the town should be a complete and fully functioning entity at each stage of growth (modular growth). However, this conclusion also aimed to make a contribution towards theories of new towns planning and implementation in developing countries.

Chapter 1:

Introduction and Overview

1.0 Introduction

This chapter introduces the thesis and sketches out the specific areas it will cover about new towns policy. It will briefly introduce themes, which are developed more fully in later chapters. The thesis reviews, firstly, the idea of new towns from its inception in Britain, its growth in a representative selection of European countries, and its introduction to a selection of developing countries.

1.1 Background

During the twentieth century, new towns' developments linked to modern urbanization that followed industrialization, had emerged as a planning programme policy in developed countries, and then, later, in developing countries, responding mainly to the problems of excessive growth of population in major cities. It is the fact that, when growth is too fast in a city, the local government becomes stretched beyond its capacity and can no longer respond to the needs of growth. Usually, what follows is overcrowding and lack of housing stock and, consequently, the appearance of squatter settlements and slums phenomenon, especially in developing countries that are built overnight. In many developing countries people can establish small houses themselves on a piece of land, simply by building on it during the night, and if the dwelling is there in the morning and is occupied by people, it is forbidden by law to remove it whether the area of building is legal to build on or not. Thus, as squatter settlements spring up, the provision of infrastructure often lags behind the rest of the city. Construction of this type represents one of the major aspects of uncontrolled urbanization in the world and from this point the idea of new towns emerged to control congestion and overcrowding in the major cities.

Actually, industrial urbanization had started in already developed countries, earlier than in developing countries. It was in the nineteenth century that cities of the developed world had experienced major problems of uncontrolled urban growth and congestion. The modern idea of new towns can be seen as a response to these urban problems and traced back, in part, to the 'Garden City' theory at the turn of the 20th century. The idea of 'Garden City' proved popular and formed the basis of the early town policy movement represented by the first garden city developed at Letchworth in Hertfordshire in the early part of the century. By the end of the Second World War (1939-45), the idea of 'Garden City' had won widespread political acceptance, in the UK, France, and elsewhere in the developed world where many new towns were built in the post war decades, and later more were built in developing countries.

In the United Kingdom for instance, 28 new towns were started between 1946 and 1971, including 8 specifically planned towns to accommodate London overspill. In France, five major new towns were planned to accommodate population growth and to relieve congestion in central Paris. Others were established as growth poles in economically depressed regions and more others in Germany, Netherlands, Finland, and the United States. Also in Egypt 17 new towns were built, in Algeria 16 new towns; and others in Saudia Arabia, Bahrain, etc. Thus, it was pertinent for the thesis to include an investigation of the planning and implementation processes of new towns programme in different countries in Europe, North Africa, and the Middle East in order to inform the subsequent analysis of the Egyptian experience, which is the main field study of the research.

Egypt for many years had faced uncontrolled urbanization, which expanded over the insufficient and valuable agricultural land in the areas of the Nile Valley and Delta (M.H.U.NUC, 1993, p.7). The government proposed the development of new towns in areas outside the Nile Valley and Delta, with the aim of attracting proportions from the excessively populated cities. But in practice, number of people accommodated in these new towns was far less than planned. These towns failed to attract people to live in them. Those who had moved to some of these towns to live in are very few, comparatively, and they still commute back to the metropolitan cities. Consequently a gap had emerged between the aims of the programme and its achievements. So this PhD will critically investigate the planning theory as well as the implementation process of these new towns, through case studies, in order to explore the reasons behind this gap and to build up conclusions and findings that would benefit other developing countries in the application of new towns policy in their urban planning programmes.

1.2 The Research Aims and Objectives

The thesis aims to contribute to planning theory related to the implementation of new towns in developing countries through an investigation of the processes by which such towns are planned and developed, and the extent to which the emerging characteristics of the new town itself are an important influence on its ultimate success or failure. This aim is achieved by research that will examine particularly the impact of the following factors in determining the success or failure of new town developments. These factors fall into two groups:

Firstly, there are the emerging characteristics of the new town itself, including:

- Location of the new town;
- Overall pattern and distribution of land uses;

- Type and mix of housing;
- Economic base and employment structure;
- Provision of public services;
- Transport services and facilities;
- Social relations and local environment characteristics;
- Number of population occupying and their intention to stay in the town.

Secondly, there are those factors that shape the implementation process:

- Legal powers available to support implementation;
- Organization and management of the implementation process;
- Financial arrangements supporting development.

As existing new towns in some developing countries are facing socio-economic problems, the research will evaluate the new towns policy and develop findings that would contribute to the new towns programme. Failure of new towns was, from some points of view, linked mainly to the lack of services, the long distance from major cities, etc. Whereas other views and opinions attributed this failure to the lack of funds, inadequacy of comprehensive management of the policy, and unskilled planners involved in the whole process, etc. This actually leads us to the main question in the research: **what are the reasons for the failure of Egyptian new towns to reach their targeted population?** Therefore, the research will investigate various issues and factors together and try to study the problem from different sides in order to understand the whole environment and situation of new towns implemented in different countries. Consequently, the aims and objectives are to find out the real and major underlying

causes of their failure and problems and also how to overcome and avoid them in future towns' planning policies in developing countries.

1.3 The Structure of the Thesis

The research is organized in three main parts covered in eleven chapters.

Part One: Literature Review

This part includes five chapters, which contain the introduction and the literature review as a background necessary for the study. These chapters are:

Chapter One: This chapter is a short one introducing the proposed research, its aims and objectives and justification for carrying out the research, giving a brief description of the contents of the subsequent chapters.

Chapter Two: This chapter is concerned with the concept of new towns, their aims and objectives, their finance and management. Basically, the origins of the new towns idea.

Chapter Three: This chapter is an overview of the literature on developed countries' new towns in the western world, particularly Europe and the UK, and their experience in managing and financing the programme of new towns.

Chapter Four: This chapter will overview the literature on developing countries' new towns in the Middle East and North Africa, particularly Saudi Arabia and Algeria.

Chapter Five: This chapter concentrates more on Egypt, as the main example from the developing countries, and the field study of the research. It explores Egyptian urban growth policies and the new towns programme, their generations, finance, and management in general terms.

Part Two: Empirical Research

This part contains four chapters, which are concerned with the research methodology, the field survey study and the three case studies investigated.

Chapter Six: This is a technical chapter, which explains the methodology used for conducting the field studies, means of data collection and data analysis techniques.

Chapter Seven: This chapter presents a relatively successful new town among the others in Egypt. It includes a review of the planning concept of the ‘Tenth of Ramadan’ town, its aims and objectives with an exploration of factors that played a role in making it relatively successful, in addition to the town’s questionnaire survey results.

Chapter Eight: This chapter reviews in details the planning concept of the second case study ‘Badr town’, its aims and objectives, the town basic components and its main problems. Also it includes the town’s questionnaire survey results.

Chapter Nine: This chapter explores the third case study the ‘Shekh Zayed town’, illustrating its goals and its planning structure regarding its different components and its main problems. Also it includes the town’s questionnaire survey results.

Part Three: Research Findings

This part includes two chapters that are concerned with the research findings and the conclusion. These chapters are:

Chapter Ten: This chapter contains analysis of the information gathered on Egyptian planning policies and environment generally, together with the three case studies’ field survey findings assessed with full consideration of the predetermined research’s objectives. This connection between the analysis and the research objectives is made in a way that can explore the essential underlying reasons for the problem, which the research is investigating.

Chapter Eleven: This chapter brings together findings of the literature review chapters on the experiences of the developed and developing countries that have been studied and the analysis from the previous chapter. It concludes with guidelines that reorganize and add to the planning theory of new towns, not only in Egypt but in different developing countries in the area of the Middle East and North Africa regarding the way that they are planned, financed, managed, and implemented.

Chapter 2:

The Idea of New Towns

2.0 Introduction

This chapter will basically attempt to explore the history of the new towns idea, their origins, the theory of the concept, the new towns aims and objectives, their finance and management, as well as their planning and implementation processes in general terms. But first, there is a need to define certain towns. The new towns have been variously categorized and defined in the literature as:

“ An isolated, self-contained communities planned to be a predetermined size, where residents enjoy both the employment and shopping opportunities of these towns and their healthy environment”.

(Rubenstein, 1978, p.4)

Branch (1985) defined new towns as:

“A community of prescribed size, master planned as a whole in advance and normally completed as planned with few modifications in a period of 10-15 years”.

(Branch, 1985, p.177)

The idea of self-contained and self-sufficient is important to new towns. Thomas (1969) stated that the ideas of self-contained and self-sufficient mean that:

“The new towns would not be just residential areas, they were designed to provide within their boundaries all of the requirements for day-to-day living”.

(Thomas, 1969, p.382)

Specifically, there appears to be a general consensus about three broad categories of new towns as outlined by Campbell (1976): new towns in-town located within a very close distance of a major city and with no economic self-sufficiency (i.e. depending totally on the major city), sometimes called ‘twin towns’; towns with semi-economic self-sufficiency, sometimes called ‘satellite towns’ (independent of the major city for day-to-day needs but dependent on it for weekly or monthly needs); and the free-standing new towns with full economic self-sufficiency (independent of the major city for most needs). An alternative classification of new towns is: ‘Open Towns’ closely

related to their hinterlands, and 'Closed Towns' with little such connection (Clark, 1976, p.2). Nevertheless, in spite of different definitions and terminology, the main defining characteristics are that they are all new and planned settlements beyond the urban boundaries (the built-up area) of existing cities. Therefore, as far as this thesis is concerned, all such developments are 'New Towns'.

2.1 Historical Background

Planning of new urban settlements had taken place throughout the world since the rise of civilization. Many towns were created from that time, such as the Kahun in Egypt, a small town built nearly five thousands years ago, designed to house the workers in a nearby pyramid. Also Babylon and Assyria in ancient Mesopotamia; Mohenjo-Daro of the Indus Valley, Melitus, Olynthus, and Periene of Greece; the thousands new towns built during the Medieval period, as well as the many new urban centres in North Africa and also Europe, those built during the Roman occupation such as Silchester, Calleva Atrebalum in Britain founded between 15 B.C. and A.D. 5, Winchester, Leicester, Aldborough which many of them were on sites already inhabited (Bell, 1969, p.9-11). In addition to many designed new towns of the Renaissance which were all created during the following centuries for reasons of economic, social, religious, political, and defensive significance.

In the eighteenth and early nineteenth centuries some new settlements appeared in Britain. The village of Fulneck, a few miles from the cities of Leeds and Bradford was built between 1772-1790 and had been founded primarily as an experimental religious settlement. Most of those who came to live there had chosen to do so for religious rather than economic reasons (Stead, 1999, p.85). Another example is the village of

New Lanark in Scotland. It was developed by Robert Owen between 1814-1824 as the location of the largest cotton spinning mills in the country and as a place of resort for curious middle and upper class visitors from the same region or abroad (Donnachie, 2000, p.157). The village of Saltaire was built by the industrialist Titus Salt between 1851- 1872 near the city of Bradford. It was built as a company village for Salt's workers (Styles, 1990, p.5). In addition, other villages such as Ackroyden, New Earswick and Port Sunlight, all were built in the genre of the philanthropic at that time.

In the 2nd half of the nineteenth century, most major cities in the developed world faced the problem of excessive population growth, high densities and the concentration of industry and employment in them, which in turn, led to a bad environment to live in. There was also an imbalance of population distribution overall the regions, as some places had a high density, whereas other spaces in the region suffered from low population densities. London as a major city grew in the nineteenth century from 900,000 to 4.5 million inhabitants; Paris at the same period grew as well from 500,000 to 2.5 million residents; Berlin from 190,000 to over 2 million; New York from 60,000 to 3.4 million and Chicago, a village in 1840, reached 1.7 million by the turn of the century, etc (Campbell and Fainstein, 1996, p.25). This explosive growth has been difficult to accommodate under any circumstances. Cities lost the power to control their own growth and began expanding into the surrounding countryside but in an unorganized way, losing the coherent structure of a healthy organism.

2.2 Howard's Garden City

This Explosive growth remained until the post-war programme of new towns in Great Britain was inspired by Ebenezer Howard in the 1890s in the concept of 'Garden City'

and planned by his followers such as Raymond Unwin, Frederic J. Osborn, Thomas Adams and others, who called for the same idea of new towns. They stated the idea clearly, and were responsible for developing and building the principles underlying the new towns programme, principles that affected the planning of new towns everywhere (Perloff and Sandberg, 1972, p.4). It was the most ambitious step of all attempts at national planning to overcome the problem of overgrowth. There was a need for re-planning the big-cities and important centres. This is to employ the vacant areas within the urban context and to relieve the high density from some areas, especially in the inner cities, which would reduce the pressure on infrastructure and public utilities, control the future urban growth and direct it as possible away from the congested areas.

In his 'Garden City', Howard aimed to create a coherent design for a new environment and a better life to draw people away from the urban centres into new civilizations. His main principles of Garden City's concept depended on designing a town for healthy living and job-opportunities produced throughout industry developments, of a size that makes possible a full measure of social life but not larger, surrounded by a rural belt. The whole of the land being in public ownership, Howard suggested that a 'Garden City' is to be planned for a population of 32,000 on 6,000 acres (2,430 ha) estate that is 1,000 acres (400 ha) of it for residential areas, distributed into six wards, and surrounded by agricultural lands on the remaining 5,000 acres (2,025 ha).

The town includes perimeter railway and main centre in the middle where the public buildings, such as the town hall, library, hospital, museum and art gallery are located (figure 2.1). Each ward of the six contained a portion of the main centre with its own park, houses and gardens, schools and churches in the Grand Boulevard; whereas,

factories are at the periphery of the city adjacent to the circular railroad that surrounds the town and connects it to the main line. Houses and their gardens were planned at a density, excluding roads, of 50 houses to the hectare (Soisson, 1988, p.28-30). The 'Garden City' was planned to be a manufacturing centre in order to separate the residential areas and also to ensure that every one would be within walking distance of the workplace. Howard had basically contained his plan with all activities that humans could need, thereby reaching his main aim in his 'Garden City' by creating a complete and self-contained town, depending on public ownership of land with private enterprise to build it.

However, and in spite of that most of references on the history of urban planning refer to Howard for the origins of the Garden City concept, Schubert (2004) brings back the origins of the idea to two years prior to that of Howard's. He refers to the German Theodor Fritsch who has proposed Garden Cities away from large cities in the 1896, as Germany and England were suffering from nearly the same problems of urbanization and the development of both countries into industrialization nations (Schubert, 2004, p. 3-4). Howard's book was first published in 1898 with a second edition in 1902, whereas, the first edition of Fritsch book was in 1896 and the second in 1912. However, the main differences between the two concepts were in the aims and also the size of the town that was not specified in Fritsch Garden City but was nearly 30,000 acres in Howard's one (Schubert, 2004, p. 24-26).

Howard's basic concept had been proved in 1910 by the Letchworth Garden City that was found in 1903-4 as a first step in establishing a better system of urban growth. It was a healthy and a well-planned environment that had shown its capacity to attract

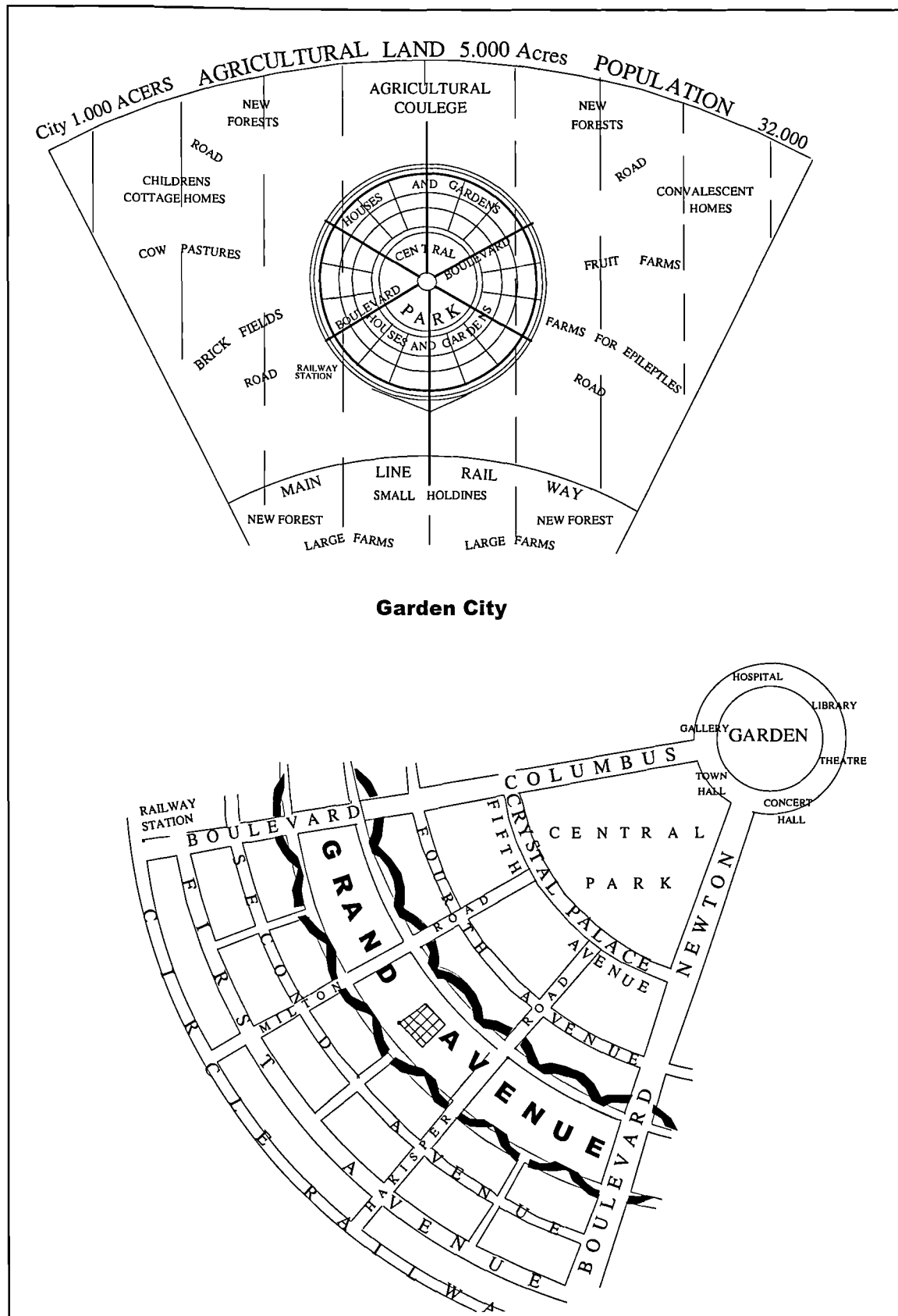


Figure 2.1: Howard's Garden City Plan; and One of its Six Wards in Details.

Source: Soisson, 1988, p.29.

industry and residents, well-served town. Each house had its own garden and within easy distance of work to the centre and open country. It had zones of different maximum densities but the planners of Letchworth were particularly concerned to set a standard of maximum density for the lowest-income families (Beevers, 1988, p.92-93).

Seventeen years after the birth of 'First Garden City', a second area of land was purchased by the GCA (Garden Cities Association) and Welwyn Garden City was born in 1920 (Tidd, 1997). It is a self-contained industrial town, in which the majority of the population works as well as resides. Although being nearer to London than Letchworth, had a more proportion of residents who commute daily to the Metropolis; but at least 85% of its working population finds their employment in the town, which has a wide range of industries and commercial business (Beevers, 1988, p. 171). After Welwyn, a lot of new towns were established not only in Britain but also all over the world. The idea of Garden City and new towns had found its echo abroad through the establishment of Garden City Association, which started in France (1903), Germany (1904), Holland (1905), Italy (1906), the USA (1906), and Russia (1911). Later in 1913, the International Garden Cities and Town Planning Association was founded with members from many countries (Osborn and Whittick, 1963, p.95).

Le Corbusier in France had his own principles in designing the Garden city towards a new town of high density with high buildings, increasing means of circulation, and increasing the planted surfaces. He started his architectural works since 1910 and in 1922 he planned a contemporary city of three million people 'Ville Contemporaine' in France. The master plan included a city centre to be occupied by 400,000 inhabitants within twenty-four story-high skyscraper and 250 meters of open areas surrounded

every skyscraper with a continuous green park zone. The centre included transport facilities for reaching suburbs as well as distant destinations. The plan included six double story apartments to accommodate 600,000 inhabitants and there was a development of Garden Cities for the rest of the two million inhabitants around the circumference of the project (Tzonis, 2001, p.74).

One city in India, Le Corbusier had participated in its plan, was the project of Chandigarh; in 1951 the new capital of Punjab in India. The plan of the city was divided into two stages. The first stage provided living accommodation for 150,000 inhabitants and the second stage provided accommodation for a population of 500,000 (Boesiger, 1957, p.52). However, Le Corbusier was more involved in architectural design projects more than planning and landscape of a whole town. However, Le Corbusier had some different principles in design from those of Howard's. He suggested towns of a big size of population in his 'Ville Contemporaine' a city with high horizontal line and vertical direction in residing as well as a high density with a continuous park space; whereas, Howard suggested a town of low horizontal line, small size of population and density resided in houses surrounded by pleasant green areas.

Thus, in countries undergoing industrialization, many new towns came into existence, perhaps with some differences in design principles but with same planning purposes, and the idea of building planned towns with controlled size had been more widely entertained. In Britain, 28 new towns were built since 1946 such as Stevenage, Peterborough, and Milton Keynes and it was estimated that in 1999 there were 2.5 million people living in them. Also France and West Germany had to rebuild war-damaged towns such as Bagnols-Sur-Ceze, La Dame Blanche, and Orleans in France;

and Espelkamp–Miltwald, Westphalia in West Germany (Wyndham, 1999). Italy had placed most of its new planned developments as expansions of existing towns, sometimes partially industrial, one of its most interesting new industrial towns is in Ivrea near Turin. In the USA, the government had thought to promote a wider location of industrial development such as Oak Ridge (Tennessee), Los Alamos (new Mexico), and Peachtree city 30 miles from Atlanta-Georgia that was designed for industry as well as residence (Corden, 1977, p.17-18).

During the same period, many new towns came into existence for reasons different from metropolitan decongestion. In the USSR for instance, many towns were founded in the course of the state programme of industrialization; built with great urgency for specialized functions such as science cities (Belousov, 1978, p.387). However, the British experience was to have the major impact elsewhere, particularly in Scandinavia, where the Garden City idea as it was envisaged in Great Britain as an outlet for the love of nature and pleasant. In Canada, new towns were an attractive form for handling the development of national resources, whereas in other cases such as Israel, a flood of immigrants had to be settled (Osborn and Whittick, 1963, p.96).

However, in all countries, advanced or otherwise, the greater part of developments, occurred in places where population was already most concentrated. Thus, the creation of new towns was a solution for a variety of problems ranging from urban congestion to regional imbalance. It was a method to deal with the problems of urbanization. Therefore, most new towns were developed around large cities in the 1960s and 1970s and even some in the 1980s, where major cities had witnessed a rapid population growth, to provide housing, and to decentralize rapidly growing population in the

metropolitan centres. There was a change in the national government's role in shaping future land use and population distribution trends instead of responding to problems only after they have emerged. Calanan (1999) stated that:

“New Towns can act as focal points in partially-expanding polycentric region. The contribution of new towns is versatile and multifaceted: prevention of urban sprawl, regeneration of older established centres and investment attraction”.

(Calanan*, 1999)

Generally, the evolution of 'New Towns' concept went over several periods of a century. Perloff (1972), classified the history of the new towns over three-quarters of a century and I had added the fourth-quarter in addition to some data to quarter three in the table below from my research study documentary information as follows:

1898 ff	Howard's initial proposal (Garden City concept)
1920s-1930s	British two Garden Cities. Radburn and "greenbelt" towns in United States.
Postwar Period 1940s-1950s	British Mark I towns; Israeli major new towns programme; Government- supported Scandinavian and Canadian new towns programmes initiated. Privately built new towns in United States.
1960s- 1970s	British Mark II and III towns (larger than Mark I, up to 250,000 population). French new towns Scandinavian new towns. Israeli, and Canadian new towns programmes expanded. United States subsidized new towns programme, proposals for new cities with population as high as 1 million. Saudi Arabia new towns programme Egyptian new towns programme initiated. Algerian new towns programme initiated. A few new towns built in other developing countries.
1980s-1990s	Egyptian new towns programme expanded. Algerian new towns programme expanded.

Table 2.1: Evolution of New Towns in Developed as well as Developing world.

Source: Based on Perloff and Sandberg, 1972, p.viii; and Researcher's study information.

* Brian Calanan, Strategic Planning Manager. Shannon Development, at the Inclusive New Towns meeting in Cumbernauld, October 1999.

2.3 Theories of Planning New Towns

The planning theory of new towns programme or any other programme generally presents the ideology, which provides a philosophic basic for the activity as Faludi stated,

“The ideology provides a basic operation rationale and defines the main kinds of problems that the new town or whatever the activity is to tackle and the major type of arrangements to different matters”.

(Faludi, 1973, p.75)

Also drawing on the views of Healey, Campbell and Fainstein, the central question of planning theory that should remain is that- how can planning play an effective role in developing the city and the region within the constraints of the economy and the political system of the country? Basically, this depends on the management of the system and its procedural planning theory. The procedural planning theory or the management of the new towns consists of several processes: The rational process, the policy action, the planning process and the implementation one. This will be demonstrated in detail in the following paragraphs.

2.3.1 The Rational Process

The rational process explores the principals and nature of planning by specifying the goals and objectives of the planning process. It gives little attention to how plans and policies might be produced and the role of planners in this context. Moreover, it controls the implementation process and evaluates alternative plans and policies when required. Most emphasis is on the objectives of the plan and on alternative ways of reaching them, all set out in writing rather than in detailed maps. As Hall (1975), stated that:

“In this process alternative plans are evaluated against the objectives in order to choose a preferred course of action; and this would continually be repeated as a process that throws up the difference between the planners intention and the actual state of the system.”

(Hall, 1975, p.270)

Actually, the objective of this continuously repeated process is to have on the one hand, a monitoring system which checks the response of the urban and regional system to the various planning measures, that are taken to control its progress. On the other hand, the control system itself that responds flexibly and sensitively to the information transferred by the monitoring system. Therefore, the evaluation of the plan is vital, as it gives the structure of the town the capacity to cope with current or increased levels of demand.

Aims of New Towns

The aims of a plan come first in the rational planning process. The new towns' programme had been built to serve various functions. One of them is to relieve congestion in existing large urban centers. Examples of this are the original eight London new towns in Britain, the five Paris new towns, Cairo's surrounding new towns in Egypt, and the Scandinavian new towns, etc. Another function is to cope with population growth or movements. For example, several of the British new towns such as (Aycliffe, Washington, and Cwmbran), in addition to most Israeli new towns that were built to attract new immigrants to the new built towns. Other function is to exploit national resources or to develop the potentialities of the land. For instance, all of the Canadian new towns were created in order to exploit some national resources (Perloff and Sandberg, 1972, p.4-5).

Further function is to serve strategic or military needs. An example of this are the Israeli towns built for the settlement of Jewish population particularly along the borders with Lebanon, Jordan, and Syria. Also, some new towns aimed to be part of a national planning and development policy. For instance, Skelmersdale and Runcorn were built not only to ease the congestion in Liverpool but also to create new economic centres in that part of Britain. Likewise, the two Saudi Arabian towns were built for similar economic reasons. Basically, the new towns' programme is often associated with the need to reduce the congestion and pressure on housing, services and infrastructure in major cities by reorganizing the distribution of population and related economic activities. As Howard stated that,

“The central purpose of new town is to avoid the further congestion of large urban centres and to provide opportunities for life close to nature and to all town activities”.

(Beevers, 1988, p.49)

New towns tend to provide an alternative to disorderly urban growth by helping to enhance desirable aspects of the natural and urban environment and thus improving general and economic conditions. Furthermore, the new towns' programme aims to contribute not only to the new town itself, but also to the welfare of the entire area, which will be affected by the programme, and of which the land to be developed is a part. The objectives of new towns policy is to monitor that social and economic resources are distributed into every part of the country to the best advantage of the whole, taking into account in particular the expected growth of population and its most desirable distribution (Corden, 1977, p.81).

Principles in Designing a New Town

To achieve the aims of new towns, there are main objectives in the planning theory to be considered in the programme of new towns. Howard had fundamental principals for

his concept- limitation of numbers of population and area, variety and sufficiency of economic opportunities and social advantages, and control of the land is in the public interest. In explaining these principles, he stated that a new town should be “

- 1) Built according to a predetermined plan of development.
- 2) Small in size, so that people can know each other and reach work and services easily.
- 3) Independent- free from any constraints of existing population, and particularly of the central city.
- 4) Self-contained and self-sufficient: a minimum of in-and-out community, and adequate jobs for all resident workers.
- 5) Balanced, not only in regard to economic diversity but also with population heterogeneity- with respect to age, occupation, income and class, as well as ethnicity.
- 6) A plan and design to accommodate all these features, with closeness to nature and pleasant living and working conditions”(Perloff and Sandberg, 1972, p.vii).

In Schaffer opinion, new towns are required, in order to provide a sense of settlement for its community. To be characterised as well as balanced and reasonably self-contained, adequate public community and commercial facilities for education, health and social services, recreation, and transportation should serve them. Work places should be provided in or near these communities so as to provide reasonably short trips to work, as he pointed out:

“The concept of the town to be built, its economic function in the region of which it forms part, its possibilities and limitation, must then be hammered out and welded together into a framework that covers every aspect of development and life in the town”.

(Schaffer, 1970, p.50)

Moreover, the substantial provision of housing should be for individuals of low and moderate income. Opportunities of work are also an essential matter in programming new towns. Although the provision of housing is the essence of a new town, but the driving force behind new towns' growth is employment because without it, a new town would just become a mere dormitory (Faludi, 1973, p.79). Thus, in theory, the programme should be economically balanced and have a base of potential for economic growth.

2.3.2 Government Policy Action and the Legislative Framework

The nature and importance of the government role in the planning process varies from one country to another; even the policy and the legislative framework differ as well. For example, in Great Britain the central government was responsible for building and managing the new towns, whereas, in other countries, such as the United States, it was the private developer who initiates and develops such projects (Corden, 1977). However, in all cases and especially for such big projects, the government approval is inevitably required and some programmes are aborted because political agreement cannot be obtained. Therefore, the strategic plan of a new town was to coincide with the government legislative framework and this was an important stage before turning to the construction process.

On the other hand, other researchers' opinion state that the government also has to manage the legislative framework in a form that it would attract support from a wide range of interests in the country. The reason behind it is that, although the initial stages of the project, from determining master plan and the broad framework guidance of the process (plans and design) are prepared by the government, the implementation is

usually carried out by private developers. To reach the implementation required, public authority planners and policy-makers need to undertake three tasks. Firstly, they must be able to identify the other factors necessary for, or relevant to, the implementation of the plan. Secondly, they must establish contacts with these actors. Thirdly, because these other agents have their own objectives, which do not always coincide with those of public authority, planners and policy-makers have to acquire the skill of negotiating (Taylor, 1998).

2.3.3 Planning Process

The planning process begins with the preparation of the strategic or master plan of the town, but before producing the master plan, there is the selection of site and size of a new town. For site selection, it was stated that,

“The site should not have too high agricultural value, and could be adequately supplied by water and also drained. Road and rail communications should be excellent and that above all, the area would be attractive to the industrialists to persuade them to move from major cities to the new town”.

(London County Council, 1961, p.13)

Therefore, the location of the new town in the region was found to be the most important factor in site selection. The location would seem to be important in the sense that it should be placed to fit best into the national system of cities. For example, in Great Britain, initiatives rested on the basis of an area for infrastructure functions such as water supply, power, sewage disposal and transportation. Traffic circulation is also of a particular importance in site selection. No master plan can be drawn up without extensive study of the traffic flow that the town would generate at various stages of its growth and the road pattern that must be adequate for the long-term future (Schaffer, 1970).

As a matter of fact, from the early days of planning for new towns there were conflicts over the strategy of location, in relation to its mother city, and by reflecting the views of Howard about independence and self-contained new towns, it was to be located far away from the mother city, but at that time there were fears that such town might fail. Therefore, in Britain the first eight London new towns were located within 20-35 miles (30-55 km) of London such as (Harlow, Stevenage, and Welwyn). Later, and with respect to the concept of independence, thoughts in Britain seemed to favor larger developments and more distance from the major cities and so some towns from the second and third generations of new towns in Britain were nearly 100 km from London (e.g., Peterborough, Northampton and Milton Keynes).

As far as the size issue is concerned, Howard's principles called for limitation on both the numbers and the areas of a garden city as mentioned previously. The medium size for new towns is sometimes, theoretically, more preferred than the small one because mostly small communities may not be provided with a wide variety of public services or facilities and if they do, it will cost too much (Perloff and Sandberg, 1972, p.7). This is what some small British new towns faced in their early stages; they suffered from a shortage of essential services, facilities, and amenities due to financial reasons. In addition, Taylor (1998), pointed out that to determine the best size for a satisfactory town, certain factors should be taken into account such as; the requirements of residential standards, access requirements between home and work, industry and commerce, facilities for recreation, entertainment and culture. Thus, new towns should be designed according to designated space standards and appropriate density controls in a professional style. After deciding the site and size, and giving the total population proposed, the preparation of a master plan for the whole town starts.

The master plan provides a broad framework to guide the preparation of the detailed planning and designs that appear in the final plan. It incorporates the main aims of the town together with the policy determined for the new town and expresses them in a product of a concept or idea for the possible form of the town and the potentialities and limitation of the site. Schaffer (1970), pointed out:

“The Master plan is a statement of general policy rather than a detailed blueprint and a great number of facts and figures have to be got together before the main structure of the town can be determined”.

(Schaffer, 1970, p. 50)

The preparation of this plan in most cases, like for example in Great Britain and France, was that of the public sector responsibility (as will be explored in ch3). Although participation of the public was required, at the formation stage in the making of development plan for their areas, this participation was primarily seen as involving more consultation with the public rather than the public activity participation in decision-making. Thus, the responsibility for preparing the plan and setting it into statutory form of proposals and decisions remain as a task demanding the highest standards of professional staff in government planning institutions. Besides, planning theory demands flexibility in the strategic or master plan to accommodate the social, economic, and political changes, which may occur over the whole period that will take to develop a new town. It is somehow general and does not include details of designs. For example, it will not determine the exact location of every road but will outline the urban structure for the town or city within which the detailed location of the major roads, as well as the minor roads can be fixed. As Corden stated:

“The master plan for the new town must depict the general land use composition of the town and its circulation system and development stages”.

(Corden, 1977, p.77)

Thus, the master plan is not just a map, with colours showing where the houses, shops, factories, and schools will be built, but it is much more than that. It is the most important document in the new town planning process. It is “a way of life for thousands of men and women and for their children yet to be born” (Hamblin, Horne and Nias, 1975). The master plan should generally take into account the central function of planning, which is to provide a good physical environment that is essential for the promotion of a healthy and civilised life. Therefore, ‘plan evaluation’ is required and is an important stage in the planning process as sometimes policies or plans are required to be compared and then decide which is preferable to enhance and maximise human welfare, and so the best plan from a number of alternatives, in Faludi’s opinion, has to be “the one which produces the most benefits in relation to costs” (Faludi, 1973; Hall, 1975, p.283).

After the master plan, usually the final plan comes into action and this includes details of the inner town, central area; residential area with its primary and secondary schools; the outer residential area; the major industrial area; and communications such as pedestrians, roads, rail, and sometimes air (Roche, 1977). At this stage the design process or plan formulation starts as soon as the planner begins to design his models. The content of the design depends on the focus and the objectives of the planner. However, although this detailed design comes later but the main principles must be established at the stage of master plan. Actually, planning, in practice, involves conflicts of values that cannot be fully resolved by rational discussions or by calculation. These conflicts may take place between organised groups’ interests and decisions at different levels and at different points at the same time (Hall, 1975, p.293).

Basically, successful planning requires considering also the likely problems of implementation at the same time as plans and policies are being prepared.

2.3.4 Implementation Process

It includes implementation programming and the implementation process itself. Implementation programme is the guide for all the individuals and agencies, which must contribute to the development of the town. The programme provides series of detailed schemes for the development process, month by month, to keep development on schedule. It also provides the division of responsibilities for all agencies responsible for the development of the town and includes basis for budgeting, manpower, resources level, and programmes for all agencies. Implementation did not receive enough attention until recently. In the past, much attention was devoted to plan and policy-making and also to policy and plan-evaluation, whereas, little was devoted to plan implementation. As Taylor stated:

“In the early post war era, the activity of town planning was considered to be a creative exercise of designing and making plans ‘master plans’, and little thought was given to how these plans might be implemented”.

(Taylor, 1998, p.111)

Later, it is thought that the failure or success of a new town is related, to a high extent, to the implementation of the town. Leaving implementation till the final stage of the planning process is quite wrong, because if the planning process went through its classical steps of preparing the plans and their alternatives and then adopting one of them by deciders and implementing it by administrators without considering implementation problems that could occur, then there would be a step of recycling information concerning the result of implementation to planners who use this

information to revise the current plan. This would cause difficulties and results in the failure of the whole process, as plans are made, but the deciders proceed to actions which are not in accord with the plan proposed. Friedmanne's criticism to traditional approaches to planning and policy making was about this separation of policy and plan making, or even any stage of the rational planning process, from consideration of implementation. His opinion meant that successful planning requires considering the likely problems of implementation at the same time as plans and policies are being prepared (Friedmanne, 1969: Faludi, 1973).

Therefore, producing the plans needs to be taken into consideration of the same stage of implementation. For instance, the implementation of development proposals generally depends on their acceptability to their sector developers, private or public; therefore, implementation is not something, which can sensibly be left until later or later stage of the planning process. Implementing plans need to be considered at the same time as plans are made, as in the opinion of Corden,

"Perspectives to implementation were that implementation have to be regarded as a series of responses to ideological commitment, to environmental pressures, or to pressures from other agencies or groups seeking to influence or control the action or the process".

(Corden, 1977, p.86)

Basically, programming the development of towns is based on the estimated build-up of population and on an assessment of when the growing population would be capable of sustaining particular land uses.

The stage of implementation programming is followed by the implementation process, which is defined as "the process of putting policy and programmes into effect" (Taylor, 1998, p.119). The implementation process depends on the growth of the town which

would fall into two main periods: the intake period, up to year 15, during which the building programme must absorb a population of up to 50% of the estimated residents, and the subsequent period of natural increase, during which the population would rise to the supposed residents by about year 50 (Roche, 1977).

And so, the programming of the main building period is usually divided into three phases: By the end of year 5 at the latest, a part of the town must be established including central area, shopping and industrial functions; by the end of the intake period at year 15, the town must be a complete working entity in every important respect; later, provision must be made to permit the expansion of all existing uses to absorb subsequent natural population increase, and the introduction into the central area of such special uses as cinemas, offices, etc, would probably arrive at a late stage in the growth of the town (London County Council, 1961).

2.4 The Planner's Role

Government's planners are responsible for creating the master plan, which can guide the specialist planners and evaluate their proposals in the light of the master plan. The planners should coordinate the planning of specialist agencies so as to ensure that their proposals reinforce each other to further the public interest. Therefore, every government planner, no matter how specialized, is supposed to have a comprehensive and coherent understanding of the overall public interest, as Faludi and Taylor stated that:

“The comprehensive planner must assume that his community's various collective goals can somehow be measured at least roughly as to importance and welded into a single hierarchy of community objectives.”

(Faludi, 1973, p.194)

“They should act as advocates for the public especially groups whose interests would not be well represented in the process of planning”.

(Taylor, 1998, p. 85)

In the planning process of the new towns, the planner has to estimate the number of the population that will be living in the town fifteen or more years ahead, the numbers and ages of the children they will have, how many people will move away from the town, and how many will stay.

Although, changes of population structure are sometimes not as predicted, but at least a planner has to take into account the amount of land that will be needed for natural increase and make sure that it is reserved. Later, he/she takes actions through public investment or controls on private investment to improve the preferred alternative. The planner has to consider the development corporations, the local authorities and give the general public the chance of criticizing and objecting. “The planner’s ideas are subject to be closest scrutiny and he must satisfy the Minister at a public inquiry” (Hamblin, Horne, and Nias, 1975, p.2). After a short time the planner reviews the state of the system he follows to see how far it is progressing, and on the basis of this he/she begins to go through the process again. Basically, planners remain an important planning tool in the whole process, from the rational stage till the implementation one (Hall, 1975,p.272).

2.5 Financing and Managing New Towns’ Developments

Although new towns’ projects require massive resources of money to build, it was found that as an element in urban replacement and expansion, the new towns have undoubtedly been less costly than any conceivable alternative (Osborn and Whittick,

1963). The spending of so much money on a new town can be returned or obtained back through investment. For example, the rents that can be charged from central and industrial areas in the new towns and besides that return which the developing authority obtain, there are benefits that local authority gets for the area in the rise of land values and in ratable values that should not be forgotten (London County Council, 1961).

Howard has claimed that new towns can, over a period of years, be “sound economic propositions” but, in his opinion, to reach this stage, considerable sums have to be spent before any revenue is obtainable. Land has to be purchased, water and drainage works and roads constructed, services and administrative expenses incurred in advance of houses and factory building. So, there is a time before reaching the stage of investment fructifies. Reaching the stage of investment fructifies requires a managing programme that provides a coherence among town planning objectives, technical possibilities; political necessities and financial limits, and this is to be maintained during implementation process.

Financial management of the new towns is seen as an important tool, which remains an essential element of the development process. It is actually the process of financial planning that is a geographical and technical division of new towns projects into units, which is required from the government towards a successful implementation. Financial planning is determined on the basis of expenditure and revenues of each different project, and according to that, the government would distribute different works among the public sector, public-private sector, and private sector (Beghin, Guillaumin and Debost, 1993,p.144).

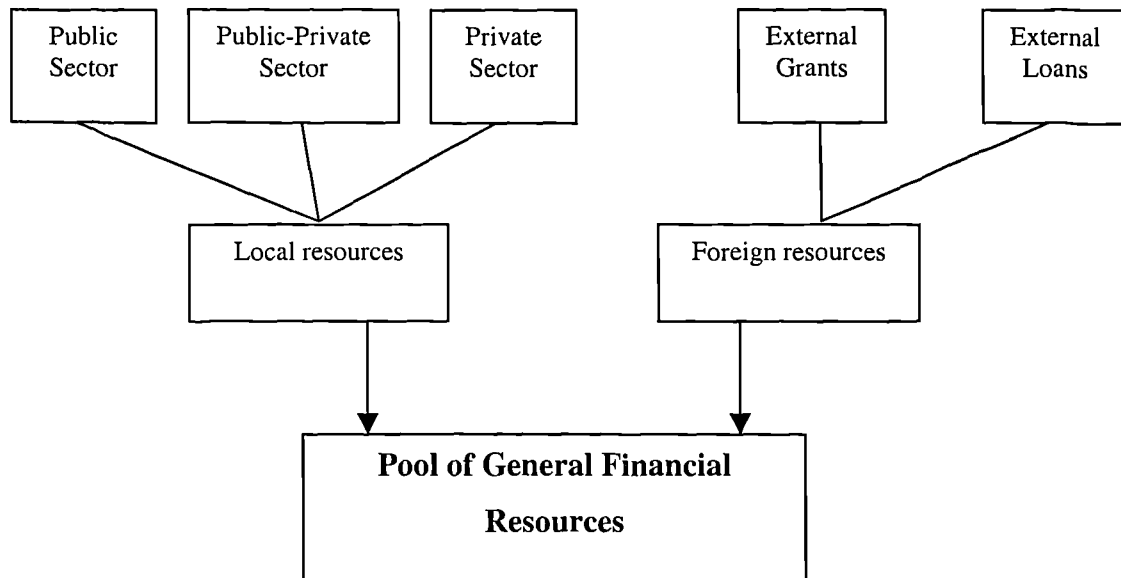


Figure 2.2: Different Financial Resources of New Towns Programme.

Source: By Researcher depending on Research Study Information.

New towns' development process involves investment of huge sums of capital; the capital has to be found out of the pool of general savings, either through the public sector represented by the Government as a percentage of annual national investments of the country; financial incentives from public sector supporting private investors and joint public-private development co-operations; private individual investors or private development companies; and external loans or grants from other countries or international organizations. This capital is for infrastructure, housing, economic activities, and social services, as sustaining this scale of development needs the continuation of sufficient financial resources. Also, it was found in new towns' studies that main cost is spent on housing, as housing costs represent approximately half of the total initial capital outlay, that is taken by public-private partnership and their possibilities could even be extended beyond the provision of infrastructure and services by profit seeking firms. However, the government also supports the private sectors by

offering short or long-term loans to encourage them to cover the cost of their investments. Government involvement is seen as an essential factor in the financing and managing process,

“To ensure the coherence of all government interventions; and to convince partners of the government of its determination to pursue its new town policy to a successful conclusion”.

(Beghin, Guillaumin, and Debost, 1993, p.136)

2.6 The ‘Dynamics’ of New Towns

In the past, towns just grew up under the pressure of industrial and housing demand and no one was so much concerned to examine the social pattern that emerged, thus many of the older new towns had been criticised for not paying sufficient attention to social aspects. Whereas, the idea of the balanced community has always been central to the theory of new towns to suggest guiding principles on which such towns should be established and developed as self-contained, economically balanced and social balanced communities for both living and working (Perloff and Sandberg, 1972, p.14).

2.6.1 The Importance of Population Structure

The size, age, and household structure of the population of the new town form the basis upon which it must be created. Population size and structure must, therefore, be estimated for each stage of the town’s growth, so that related proposals for all other aspects of development, including costing and programming, can be framed. Sometimes estimates may prove wrong. This is due to economic changes, national and sometimes international, that can happen unexpectedly. So, the Plan must be flexible enough to enable it to cope with new events. One important issue in new town’s

population structure is the age structure of the community that is important for the social balance of the town.

Mostly young married couples, which face housing problems, migrate to new towns. Therefore, the concentration for social needs is for the age group (20-30 years and 0-5 years) so, the urgent primary school need coincides with initial home building, and then this followed by the teenage stage and the secondary school (Hamblin, Horne, and Nias, 1975, p.4). As most new towns take around 10 to 15 years to be completed, this gives the chance for providing facilities for the second generation, their needs to work, housing, and for the first generation, which had settled firstly, to grow old and so social provision for elderly people is required. Schaffer (1970), stated:

“It will be a slower rate of development going on, possibly for thirty years or more before the population has settled down to a normal age distribution”.

(Schaffer, 1970, p.53)

A particular problem that could happen here, in many planning situations, is the difference between the interests of different generations. Hall (1975), pointed that if public housing for instance were built only for contemporary standards, the risk that will appear here is that it will be regarded as substandard within generation or two, and therefore it may not be possible then to redesign it except at unacceptable cost, but if it is built in advance to satisfy the pressing housing needs of today and tomorrow then many decisions and questions about preservation and conservation will appear related to the interests of different generations (Hall, 1975, p.292).

As far as the ideas of ‘social-balance’ and ‘self-contained’ are concerned, ‘social-balance’ had meant not only diversity of dwelling, industry and balanced physical

developments, but also includes population diversity structure with respect to age, occupation, income, ethnicity, and class (Perloff and Sandberg, 1972, p.17). The idea of social-balance appears in the neighborhood unit concept with the integration of all socio-economic categories. This idea was associated with the belief that out of this social structure a sense of community would exist (Welling, 1977, p.7). The concept of 'self-contained' community means providing basic needs of the town's population in terms of housing, employment, shopping, social, culture and community provision; and most of these services are provided usually by the government and their partners from the great development corporations; in addition, commercial enterprises sometimes add such facilities (Hamblin, Horne and Nias, 1975). Self-contained new town can simply be defined as,

“the one in which the residents can live full lives satisfying all their daily needs within its boundaries” .

(Perloff and Sandberg, 1972, p.13)

Another important issue is 'social-class' in a new town, which is affected mainly by the economic structure of the town. This can be seen as the social structure of a new town derives from the industrial selection scheme, the new towns are usually working class societies. These working class societies are supposed to be of professional skills people, due to the idea that the prime requirement to establish a strong economic base in the new town and the nature of the industries capable and willing to locate, leads to a large concentration on skilled workers, as Wellings (1977), stated:

“ The new town have been successful in attracting managers, executives and professional people, who come with a sense of high purpose in response to the pioneering climate which existed first in the early New Towns and persists today in the newer New Towns”.

(Wellings, 1977, p.4)

Basically, these social aspects are very important factors to consider in the plan of a new town. It is an integral part of the plan, which needs to be thought of as any other technical needs of the new towns. However, Master Plans are expected nowadays to include a 'social development plans and programmes' (Schaffer, 1970, p. 56).

2.6.2 The Importance of Employment Structure

As population structure affects employment structure, employment structure in turn affects population structure as well. The goal of self-containment has interrelated aim to the level of employment to match the level of job demands from the economically active population. Moreover, the concept of self-containment, in regard to employment, varies from town to town, according to the reason of building the new town. For example, when new towns are founded independently outside urban regions to encourage the economic development of undeveloped regions, as in the case of the Canadian new towns, there are usually enough jobs for their inhabitants, since they are established for industrial development and are located in geographically isolated areas. Here, the number of jobs is linked to the number of resident workers and planned previously. Whereas, it is different in the case of those new towns that are built to decrease the excessive population growth of large urban centres, as in the case of the British and Scandinavian new towns, because here, achieving balance between employment and population is relatively difficult (Perloff and Sandberg, 1972, p.13). Actually, most people who come to live in new towns have housing and employment high on their list of priorities. And as far as the employment issue is concerned, the creation of a strong economic basis is essential for the well being of each new town community. Wellings (1977), stated:

“ The New towns vary in their success stories in the field of employment, but generally they are recognized as centres of economic vitality where employment creation has been remarkably successful”.

(Wellings, 1977, p.8)

It is assumed that usually, the number of employees in new towns remains for about 15 years between the age of (30-45), this is due to small number of teenagers coming into the town during the intake period as mentioned before, also the children of the group (30-45) would be fewer in number than those in subsequent years. So, it can be assumed that in the life of a new town, particularly in the years from 5 to 10, a large proportion of employment would be in service industry and construction work and then in year 15 this declines, whereas employment in shopping and other commercial activities should increase to take its place. Then by year 20, the children of the immigrants would have reached working age and there should be plenty of employment for them in the shops and offices, which will then arrive as well as the factories (London County Council, 1961).

2.7 Conclusion

Finally, it can be summarized that building a large new development is quite a complex exercise, and from reviewing the planning theory of new towns, it is evident that in order to carry out this exercise, there were some important principles to be considered for a successful new town. These theoretical principles will be highlighted and demonstrated in the following chapters to determine to what extent they were applied in the new towns' programme, in different countries, and to what extent they complied with the actual requirements and situation of these towns or whether there were some gaps in the theory and the achievement was not as it was supposed to be.

The following chapter is a transformation from theory in this chapter to practice. It will review new towns experiences in developed countries, particularly Great Britain, France, and briefly, in some other countries in the developed world that had applied the new towns programme in their urban planning policies.

Chapter 3:

New Towns in Developed Countries

3.0 Introduction

The previous chapter was concerned with the origins of the concept of new towns, studying their planning and implementation processes theoretically whereas, this chapter and the followings will investigate the achievements of the policy in practice in different countries; and before investigating the new towns policy in developing countries, a study of the experience of some European countries in the developed world (western countries) will be explored in this chapter, that had experienced the same planning mechanism of new towns even before and would have good and useful lessons that are worth conversance. Although each country has its own regulations, financial conditions and criteria for new towns developments, but even though different countries can always share innovative ideas and continue to learn from one another in order to solve common problems. Most of new towns in Europe were designed in the post-war period as a planning option to alleviate congestion of metropolitan areas, as an alternative to urban fringe development, and a way to achieve balanced territorial development (Leeuwen, 2001). In this chapter two countries were chosen for detailed study of their experiences. These countries are Britain and France, in addition to some other countries briefly considered in order to illustrate particular issues.

3.1 The Experience of Britain

3.1.1 Introduction

Britain in the nineteenth century had witnessed urban problems of population overcrowding, concentration, congestion, and of sprawl in its major cities. As between 1801 and 1901 the population of England, Wales and Scotland grew from 10,501,000 to 37,000,000 (Ashworth, 1954, p.7; Aldridge, 1979, p.1), at the same time, the

population was moving from the countryside to the town causing problems of excessive population growth and congestion. This was until Ebenezer Howard inspired the idea of 'Garden Cities'. The concept depended on creating cities for healthy living and availability of job-opportunities of a size that provides all needs of social life but not larger. Part of the city is devoted to the city itself in a circular form and the rest to an agricultural estate in order to be interdependent and actually self-sufficient (Osborn and Howard, 1944, p.52). Later, in 1901, the GCA (Garden City Association) was founded under the chairmanship of Ralph Neville, the pioneer company was formed, and in 1903 bought 3,818 acres (1,547ha) in Hertfordshire to build Letchworth (Aldridge, 1979, p.4).

The site of Letchworth was 34 miles (56.4 km) north of London, where the Great Northern Railway's London to Cambridge line ran through it. The land of Letchworth had been acquired in 1903 and the architect Barry Parker and Raymond Unwin produced the first town plan in 1904 after, drainage and contour surveys were done (Soisson, 1988, p.31). Letchworth was initially designed for a population of 35,000 people, and the aim of building it was to promote and further the distribution of the industrial population upon the lines suggested by Ebenezer Howard to form a Garden City as a settlement for agriculture, industrial, commercial and residential purposes. It was designed as groups of villages around a public centre presenting the first practical example of the neighbourhood units to be developed further and become the new towns' norm, "it was established as a model and a reference for half a century" (Merlin, 1993, p.58).

In general, Letchworth was not built to the same standard as the new developments in England of its time. This was in response to the majority of residents that were more interested in individuality, especially in dwellings, and gave much more importance to the internal comfort, privacy and garden plots than the external appearance of the house. In addition, Letchworth had a range of prosperous industries and was surrounded by a protected agricultural belt. Almost all its people found their employment locally. It showed that a new town with a green belt could bring employment and many services to the surrounding villages and countryside without effecting agriculture.

“ It demonstrated that a town based on modern industry could be economically and socially viable, even if built out of the immediate sphere of influence of a metropolis”.

(Osborn and Whittick, 1963, p. 24)

The second Garden City was Welwyn. It is 40 km north of London built after the first World War, planned nearly in a circle on 2,000 acres (810 ha) for 50,000 resident with a maximum net density of 30 houses to hectare. Welwyn was small enough for every citizen to be within 15 minutes walking of the town centre and open country. The land included various functions as the 2,378 acres (963 ha) was divided as the following: residential areas including small open spaces are all spread on 1,298 acres (526 ha); industrial areas on a flat of 170 acres (69 ha) adjoining the railway lines; 80 acres (32 ha) for central civic and commercial area; 150 acres (61 ha) for schools; railway land on 72 acres (29 ha) and rural belt spread on 608 acres (246 ha) (Soisson, 1988, p.43).

In the town, the site of the civic centre with the town's main public buildings was just outside the shopping area. This was to have the shopping, commercial and other

activities areas as compact as possible and also it was recognized that the public buildings would only gradually be built as the population of the Garden City grows. By the time the idea of the Garden City was developed to the idea of totally new towns, which had its origins in the experiments of Letchworth and Welwyn Garden Cities (as mentioned in previous chapter). Howard's opinion was that Garden Cities were the future of Britain's town planning, he stated that,

“...Town and country must be married, and out of this joyous union will spring a new hope, a new life, a new civilization...”

(Tidd, 1997, ch1.p.2)

GREAT BRITAIN	New Towns	Date of Designation
ENGLAND	Aycilffe Basildon Bracknell Central Lancashire Corby Crawley Harlow Hatfield Hemel Hempstead Milton Keynes Northampton Peterborough Peterlee Redditch Runcorn Skelmersdale Stevenage Telford Warrington Washington Welwyn Garden City	1947 1949 1949 1970 1950 1947 1947 1948 1947 1967 1968 1967 1948 1964 1964 1961 1946 1968 1968 1964 1948
SCOTLAND	East Kilbride Glenrothes Cumbernauld Livingston Irvine	1947 1948 1955 1962 1966
WALES	Cwmbran New Town	1949 1967

Table 3.1: New Towns in Great Britain.

Source: Based on table 2 in Aldridge, 1979, p.176-177.

Also in Howard's opinion these towns have to provide a complete life to new residents as the way they were living in previous urban areas, he pointed out that:

“New Towns had to have a completely social and functional structure with sufficient jobs to make it self-supporting, spaciouly laid out to give light, air

and gracing living and surrounded by a green belt that would provide both farm produce for the population, and opportunity for recreation and relaxation, such town separated but linked by a rapid transport system, form a 'social city'.

(Schaffer, 1970, p.11)

However, after that and particularly as a response to London's problems of excessive population growth and congestion, Britain has built 28 new towns since 1946 (table 3.1) and (figure 3.1). The first fourteen were started between 1946 and 1951. Seven more new towns were designated between 1961 and 1966 as a second generation of new towns and later the rest were designated as a third generation between 1967 and 1970 (Perloff and Sandberg, 1972, p.8-9).

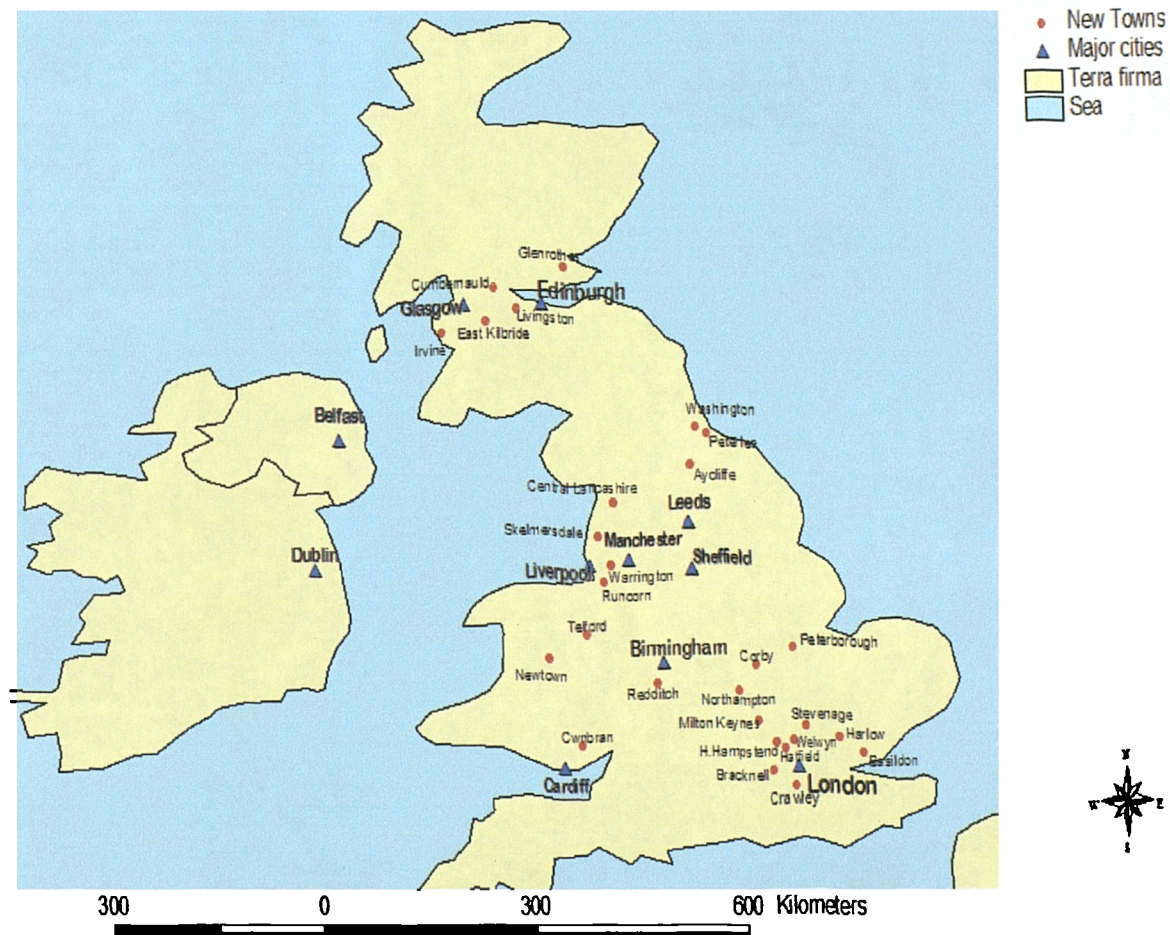


Figure 3.1: Map Showing the Location of New Towns in Great Britain.

Source: By Researcher based on GIS techniques; ESRI Information; and Evans, 1972, p.3.

3.1.2 British New Towns' Managing and Financing System

By the end of the Second World War, housing problems in Britain had reached crisis level, with many houses nationwide and particularly London becoming damaged (Cherry, 1988; Crawley, 1997, ch1). At that time a Ministry of Town and Country Planning was created in 1943 and in the following year the Town and Country Planning Act of 1944 enabled local authorities to buy war-damaged areas to re-plan them. Later the act required the minister to appoint a development corporation to plan and build the new towns. "These corporations were not a political body but more like a part-time board of directors of a company" (Golany, 1978, p.15). In August of 1946 the act was given royal assent, giving the Government the power to designate possible sites for future new towns (Crawley, 1997, ch2). Actually, the site was to be decided by the Secretary of State for England, the Secretary of State for Scotland and, since 1965, the Secretary of State for Wales in the national interest, after consultation with some local authorities who appear to be interested and others. Once the designated area is decided, Development Corporations had the power to buy the land they need by a form of compulsory purchase (Osborn and Wittick, 1963, p.95).

After choosing the site, the development corporations started designing the new town's master plan on the choiced site. But during that, development corporations kept in touch with the local authorities of the nearest areas to the new towns and were also required by law to consult them on each building project. Studies to be prepared by development corporations included a report to set out the issues upon which the proposals and policies of the plan are based and the proposals map which shows the specific land use policies of the new town plan, So a draft designation was to be published (Schaffer, 1972, p.45). All such plans and major projects were to be

submitted to the Ministry for approval and once approval was to be given for a project, then the Development Corporation had planning permission and became the planning authority for the new town. However, the structure and powers of the local authorities and other bodies providing, for example, gas, electricity, water, telephone, etc remain unaltered (Roche, 1977, p.7).

Funds for the new towns programme used to come in the beginning via national loans funds for the whole developments of the town, for the first and second generations of new towns, and were subject to parliamentary approval. But later in the third generation of new towns, the government announced that half the capital for commercial and industrial developments should come from the private sector and the growing interest of institutional funds in property as a secured investment. Thus, finance for the third generation towns was more dependent on private sector, as some of housing, and a great proportion of industrial as well as commercial developments came from the private sector. In addition, many companies that had brought employment to the area had major interests in the development (Aldridge, 1979, pp. 39-76).

3.1.3 British New Towns' Characteristics

Actually, the new towns movement is the planning and building of a whole new environment for people to live in. Although new towns in different generations had different purposes, most of them were to absorb the pressure of growth, particularly those around London, they were necessary to attract families from London's congested inner districts, where density in the year 1951 had reached about 5,567p/km² (Demographia, 2001a), and consequently, as a solution to the problem, eight new towns

were built around London: Stevenage, Welwyn, Harlow, Hatfield, Hemel Hempstead, Bracknell, Crawley, Basildon (figure 3.2).

Other towns in Britain were built for different specific purposes, for instance, Peterlee and Newton Aycliffe in North East England were designated to act as industrial magnets to attract business and commerce to county Durham; Corby, in central England, and Cwmbran, in South Wales, were meant to house the influx of workers to the rapidly expanding industry works nearby; Glenrothes, in Scotland, had been started to provide homes and services for people coming there to work in the new coal mine, but when this had to be abandoned because of flooding, Glenrothes was given the new purpose of accommodating families from Glasgow and attracting new industrial firms to support the area's revival (Wyndham, 1999).

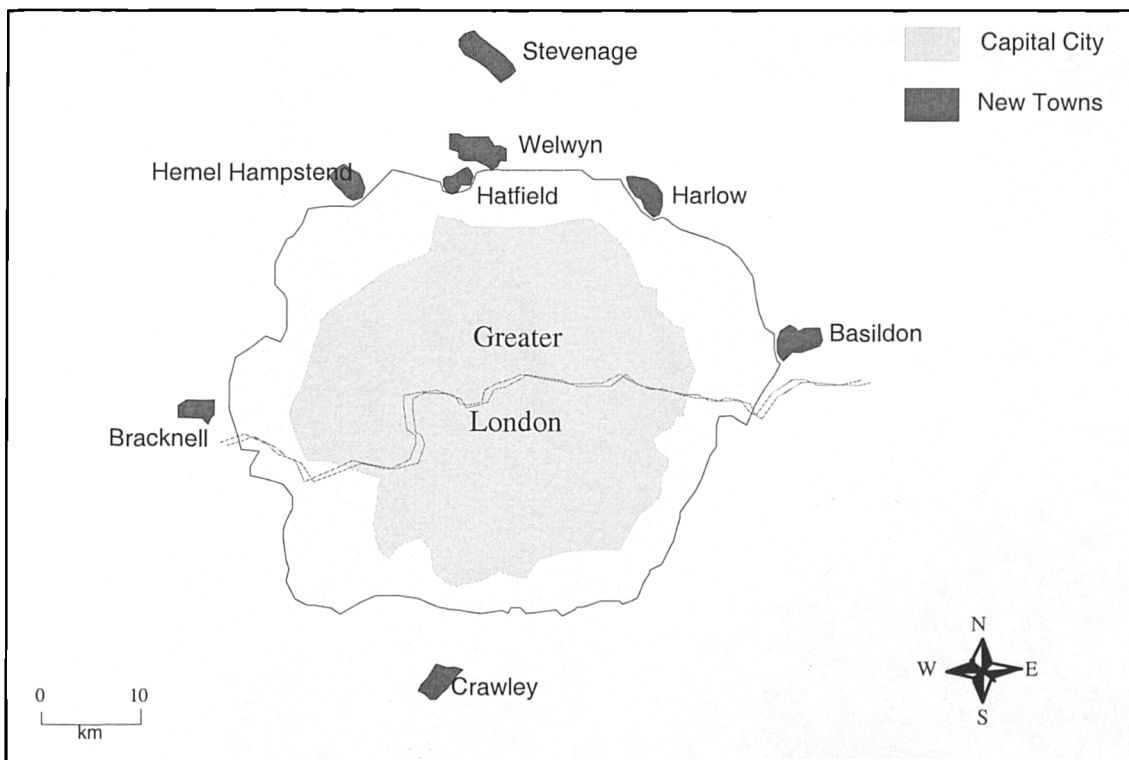


Figure 3.2: New Towns Surrounding London.

Source: Ministry of H.U.NUC, 2000a, p.86.

In the planning of new towns, the development corporations were anxious to keep both the transfer of agricultural land to new towns' growth and the inevitable interference with farming to a minimum. Several proposed new towns' sites were rejected wholly on agricultural grounds (Cullingworth, 1979, p.101), but however, "one of the things that links all of the new towns in Britain is that they are all surrounded by a Green Belt" (Tidd, 1997, p.4). In addition, there was a large variation in the space provision adopted by different new towns both for the total provision of urban land and for the individual land uses. For instance, the density of housing ranged from above 200p/ha at Cumbernauld to below 100p/ha at Redditch. The medium density was in Bracknell, Welwyn Garden City, Crawley, Stevenage and Hemel Hempstead; whereas the high density was in East Kilbride, Harlow and Basildon; and the highest was in Cumbernauld only (Evans, 1972, p. 24-25).

More details about British new towns' characteristics will be explored in the following. It is quite beneficial to review the British experience in new towns. As they are famous throughout the world, they are among the earliest examples of comprehensive urban planning and have a reputation as social experiments. Basically these new towns are classified into three generations, according to the time of construction. The generations' characteristics will be reviewed in the following paragraphs with a specific example from the third generation to be studied in details.

The First Generation of New Towns (Mark I)

The first generation of new towns included 14 towns; Stevenage was the first new town to be designated under the New Towns Act 1946; Crawley, Hemel Hempstead, Harlow, Newton Aycliffe and East Kilbride were designated in 1947; the remaining towns in

what had come to be called the Mark one phase: Peterlee, Welwyn Garden City, Halfield, Glenrothes, Basildon, Bracknell and finally Corby, were designated by April 1950 (Aldridge, 1979, p.42). These new towns intended to decentralize population and meet housing need, which included all the London new towns at that date. The design of this first generation of new towns in Britain represented the final development of the ideas in the original garden cities of Letchworth and Welwyn at that time. They were intended to be limited in size, surrounded by substantial open space, and planned to provide a complete urban environment, including housing, employment and recreation for an average population of 30,000, such as in Stevenage new town (Stevenage Borough Council, 1981, p.34).

The planners of these towns were able to work within what they believed to be a fixed boundary, so they had to do their arrangement of space within this boundary (Cullingworth, 1979, p.38). Housing was split into neighborhoods, separated by large areas and open spaces. The characteristic of the road network consisted, in most of them, of radial and ring roads. The radials connected the neighbourhoods to the centre, whereas, the connection between the new town and the outside world took the form of a limited number of main road connections running in towards the centre. Also, densities of these towns were relatively low (Evans, 1972, p.102-104). Building progress in most of the first generation was slow because of the national economic crisis of 1947 from which all new towns enterprises suffered (Schaffer, 1972, p.61). Basically, the first generation of new towns were characterized by a design more nearer to the Garden city shape, low density, cul-de-sac transport network, which means a separation between pedestrian and vehicles roads, and slow in the construction progress.

The Second Generation of New Towns (Mark II)

It was 10 years before any more new towns were designated, except Cumbernauld 1955, and between 1961-64 under the pressure of housing shortage, the Government ventured on a second series of new towns to help solve the overcrowding problems in Birmingham and Merseyside (Cullingworth, 1979, p.166). Thus, seven more new towns were designated between 1961 and 1966, Skelmersdale and Runcorn in the north west of England were intended to provide new homes, work, and all necessary services for families attracted from Liverpool; Dawley (later called Telford) and Redditch were similarly related to the Birmingham conurbation. Washington new town had the same purpose in relation to the city of Newcastle and industrial Tyneside. Livingston and Irvine in Scotland were established to provide homes, employment and a full range of services for families attracted from Glasgow and Edinburgh (Wyndham, 1999).

By 1961, almost 11,800 ha of land in Britain had been developed for new towns. However, the residential area was the greatest proportionate urban use of land in the new towns. It accounted for nearly half of all the proposed urban area, whereas the next major use, which is the open space, took up about 20 percent, industry and education only about 8 to 9 percent each (Evans, 1972, p.23). There were not quite so much change in the programme during the period of 1961-64, only that there were regular debates in parliament arising from the need to vote for more money for the new towns programme. So, there were some proposals such as ownership to be broadened by the involvement of the private capital in town centre sites and the gradual build-up of private housing for sale. Also the freehold sale of some of the industrial sites was being favorably considered (Aldridge, 1979, p.59).

Regarding master plans design, generally there were no huge difference between Mark II and Mark I new towns' generations except in the transport system that was of too much separation between pedestrians and vehicles transport networks in the first generation and became tiring more than securing. Therefore, a trial was made in the second generation to keep this separation but to make it more acceptable by proposing the central route transport system, which formed the spine of 'figure of eight' where the main roads penetrate the neighbourhood units but through their centres only. Also the population projected for the new town was increased here approximately to double, it became of an average of 90,000 residents, such as in Runcorn new town (Ling and Arnold, 1967, p.2).

The Third Generation of New Towns (Mark III)

From the late 1950s to the late 1960s, population projections for England were taken to forecast a growth of about six million by the end of the century. At the same time, a much faster rate of new household formation was taking place and was projected to continue. But in the event, the rate of population growth started to fall quite sharply from the late '60s; whereas, new household growth exceeded the forecasts and continued to do so. Therefore, the response of the government was to designate few but large-scale new towns and thus, there were three major new towns in the south-east (Milton Keynes, Peterborough and Northampton); also one in the north west (Warrington); and to change (Dawley) new town into a much bigger population targets. These towns were to be built much more quickly to maximise their contribution, meeting the high levels of housing need and housing demand for all the country's major region centred in London (Wyndham, 1999).

The third generation of British new towns were designed to be much bigger than the earlier ones, and population targets in some of them were increased to maximise their contribution to housing needs in London. “They intended to become ‘counter- magnets’ to the pull of London and Birmingham” (Aldridge, 1979, p.63). Development Corporations had thought that the development of these large-scale new towns could be achieved more quickly by extending established infrastructure services rather than by having to install them on undeveloped sites. In addition, there was a direct involvement of a substantial, self-confident and elected authority, which was working in partnership with the Government. This had helped to overcome the previous undemocratic central control. In Mark III new towns, the partnership principle was developed most effectively, especially in the expansion of Peterborough, where the city council and the county council worked closely with the development corporation throughout the 20-years expansion programme and it worked remarkably well (Cullingworth, 1979, p.235).

In this generation, there were some changes in the design of the master plan, for instance, in the first generation the design of the town plan was based more on the ‘neighbourhood unit’, whereas, in the third generation, such as Milton Keynes, this intention was changed to the goal of ‘freedom of choice’ which led to the rejection of the ‘neighbourhood unit’. It meant that the plan should provide the opportunity for people to choose between alternative schools, shops, work-locations and services of every kind and consequently, it was thought that if a real freedom of choice is provided, there must be a freedom of movement. In the previous generations, good communication had always been a goal in design but it was thought between certain defined locations such as town centres or, at neighbourhood level, it would be to the

neighbourhood centre. Whereas, the new goals of Mark III asked for more than this, it rejected transport solutions, which made some areas of the town being significantly better served than others; therefore, solutions such as the transport grid system had emerged (Milton Keynes Development Corporation, 1978, p.20).

In terms of 'social balance and variety', although both concepts were aimed in the new towns programmes from their early stages, but because these towns were attracting population resulting from metropolitans of specific classes, there were no full cross-section of social classes in Mark I and II. Therefore at the Mark III new towns, it was required from the plan to overcome this point by designing it in a way to attract and accept every social and racial group. Thus it was designated to give people what they want when they first come, and provide their needs and desires, which may change rapidly as they settle down. "Plans must provide locations where social and commercial services can spring up or die away in response to need" (Evans, 1972, p.106). However, Milton Keynes new town example will explain more about British new towns particularly Mark III towns' characteristics.

Milton Keynes New Town

Milton Keynes is located in North Buckinghamshire and is about 53 miles (86 km) from London and is the last new town to be established under the new towns programme. The plan was published in 1970, and planned for up to 250,000 people to live and work in the new town. It was built primarily to relieve the continuing industrial and social pressure on London and the South East as a number of new towns were decided to be built, of which Milton Keynes was the largest (Dobbin, 1998, p.87). Milton Keynes was planned from the beginning to provide both independent and self-

sufficient concepts. Although, Milton Keynes is a new town but it is one in which growth is based on a number of old established communities, as within the boundaries there were three towns and thirteen villages. These towns are Bletchley, which grew as a market town and is an industrial centre; Wolverton was itself built as a new town around the railway workshops, which was opened there in 1848; and the third is Stony Stratford which dates back to 13th century and has changed little since the boom times of the coaching era (Milton Keynes Development Corporation, 1978, p.32).

The plan for Milton Keynes was designated to be capable of responding to changes. Central to it, is the idea of dispersal-factories, offices, and houses in small adjacent groups spread across the entire city; with a grid system of roads spread like a net between them (figure 3.3). Construction started at Wolverton and Stony Stratford in the north, and Bletchley in the south and curved inwards to meet at Central Milton Keynes creating a crescent of development across the city, later it expanded east and west (Walker, 1982, p.31). The transport grid system aimed to make it possible for people to travel quickly and easily around the town by whatever means they choose, whether on foot, bicycle, car or public transport; traffic is not concentrated on a few overcrowded motorways but spread evenly over a system of main roads lying across the landscape like a net (Berratt, Chapman and Davies, 1975, p.3).

The area designated for the new town was very largely green fields, the nature of the countryside had been conserved and the resources of landscaping the city had not been confined just to the housing and employment areas, they were also planted and some factories and offices were located near parks. In the new town there are three district shopping centres. The Brunel Centre of Bletchley and Cofferidge close to Stony

Stratford and the third one is in Wolverton; this is in addition to the central Milton Keynes shopping centre. Education had been always a key factor for many people in their settlement decision especially for their children, therefore over forty schools have been built in the town. Schools which are designated for 160-250 child were within a maximum walking distance of 500 meters from the home they serve, and are placed in a way that gives most parents a choice of two schools. Middle schools, which are designated for 320-480 pupils, had often shared a site with the first school sited at local centres. There are four secondary schools spread in the new towns and also higher education was also provided at Milton Keynes; this is in addition to a few numbers of collages spread in the new town (Walker, 1982, p.35).

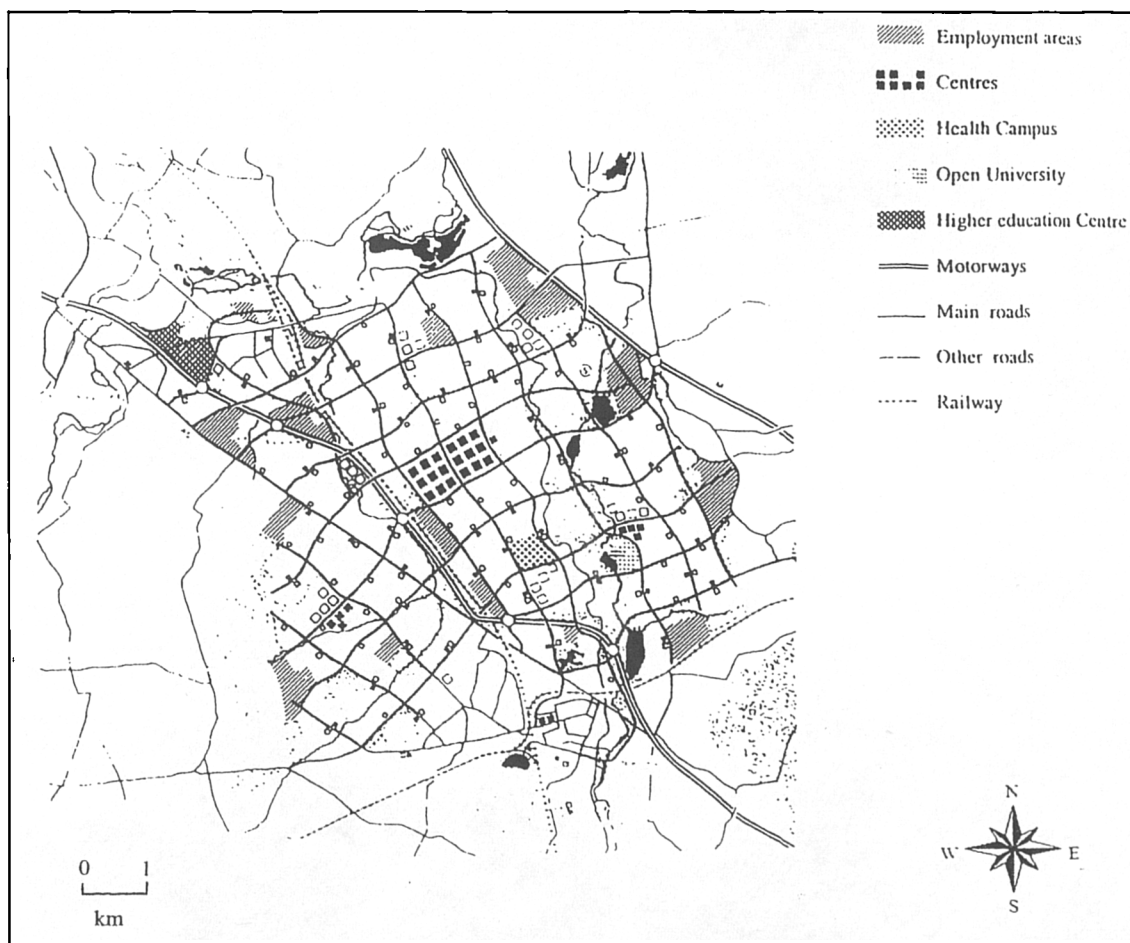


Figure 3.3: Milton Keynes Town Master Plan.

Source: Evans, 1972, p.109.

The plan of Milton Keynes was designated by flexibility, this flexibility appeared in road network and the land uses. Milton Keynes as the main new town in the South East region, had played a main role in attracting and managing regional population increases and had witnessed a proposed increase in population since it was produced until 1991. After that, projections had been revised downwards and the regional population remained static or was increasing very slightly; this explains to us why the Lancashire Development Corporation was disbanded in the mid of 1980s, which was a large project proposed in the late 1960s of three adjoining towns in central Lancashire in North West England, with combined population of 250,000. The central Lancashire Development Corporation was set up in 1970 to achieve this but because the national projection of population went down, the need for this huge project became pointless; thus, the New Towns' programme was rapidly run down and this was implemented by the Conservative Government in the late 1980s (Wyndham, 1999).

3.1.4 Conclusion

By the end of the 1970s the new town development corporations had ended and transferred their responsibilities to local authorities and the commission for the new towns. By the late 1980s the majority of development projects of those new towns were completed. Recently, it had been estimated that British new towns had housed 2,000,000 people; around 500,000 of them live in the eight new towns surrounding London (Crawley, 1997, ch3). It is noticed however that in the beginning of the British new towns programme, most new developments were occurring on the edges of big cities or within expanding zones of new urban growth (old newer city region). Whereas later, most of this growth was spread and fragmented; although it is still not far away from major cities but not quite so near such as those of the first generation. In addition,

comparing the projected population in the three generations shows that nearly all towns of the second and third generations had bigger targeted population than those in the first round of designation. For example, Stevenage, with a targeted population of 30,000, was the smallest, whereas Milton Keynes with a targeted population of 250,000, was the largest.

Basically, some significant points had made the third generation relatively considered as more successful than the previous generations. The first point related to the quickness in building the new town which affects its life to a high extent because when implementation process of a new town goes slowly, the town may prove unpopular and after a short time it may become a derelict land, as people usually don't have the patience or the foresight. Evans (1972) stated "A new town requires foresight and our society are impatient of foresight and weak in social imagination and building for the future" (Evans, 1972, p.6). Another point is related to the way of financing the programme; Mark III towns are considered as a relatively successful new towns and the speed in their implementation was affected by the sufficient fund provided for the development process. A large part of the development fund was coming from the private enterprises, much of it from foreign investors, and had resulted to a good proportion of jobs-opportunities. This had also encouraged people to commute in more than to commute out of the town. Also it had proved the effectiveness of partnership between the public and private sector in the success of the new towns life. In addition, this quickness in towns implementation process was also achieved by the thought of locating the new town near a previously occupied area, such as the example of Milton Keynes, where it may be possible to extend established infrastructure services to the town rather than having to install them on virgin undeveloped sites.

The distance of the new town from major cities had played an effective role as well, for instance, although Milton Keynes, as an example of the Mark III new towns, is within 50 minutes of London, it wasn't a physical branch or an extension of an existing city, whereas it was an entity on its own and proved both independent and self-sufficient. This has effected also the social structure and social class of the new town. The plan for Milton Keynes was a response to the requirements of different age-structure and social-class to coincide with the changing interests that may occur to their needs and interests by time. In addition, the transport system used in Mark III new towns had an access to good road transport routes. The capacity of the internal road networks of the newer towns was clearly raised. Mark III new towns were planned on the basis of universal car ownership (Aldridge, 1979, p. 126), whereas, the first generation towns had problems in providing parking for the unforeseen car population, both in the town centre and the homes of residents.

Thus, as the quality of new towns' facilities was improved generally, many new towns were becoming centres for employment and shopping for a widening area. "Between 1961 and 1975 the corporations of Basildon, Bracknell, Crawley, Cwmbran, Harlow and Washington, all noted with satisfaction that they were becoming regional shopping centres" (Wyndham, 1999). And actually, the third generation had the benefit of lessons learnt from previous new towns experiences and this is what the research is aiming to achieve. Opportunities of work are necessary to attract people to new towns but at the same time it is always supposed that a new town would provide a better environment for people to live in it. Therefore, contact and co-ordination between the Department of Industry and Department of the Environment was very important in the

arrangement of the new towns programme. This is to reach the right policy in directing wealth, economy and welfare to residents overall the region of a country.

3.2 The Experience of France

3.2.1 Introduction

New towns had been developed in France in the second generation of post war planning in the 1960s, whereas, the British had started the construction of new towns soon after the war (Rubenstein, 1978, p.20). It was not until the middle of the nineteenth century in France that economic expansion was achieved without a massive migration to the main cities. Industries, such as textiles, operated with rural home-based labour rather than in costly factories in big cities; and although Paris was from that time established as the most important city in France, the regional centres such as Lille, Lyon, and Marseille were also sharing in the national growth. After that, in the first half of the twentieth century, there were an economic and demographic stagnation in France that affected the redistribution of population and, consequently, the pattern of balanced national growth was destroyed (INTA, 1981, p.25). People and jobs were increasingly concentrated in the Paris region, which started to grow at the expense of the rest of the country.

Between 1901-51 Paris grew by around 500,000 people and France as a whole by 9 million, as in 1860 the rural areas began to lose population rapidly while urban growth was increasingly concentrated in Paris that had grown to 1.8 million in 1946. The Paris region had increased by 4.8 million people while France as a whole had increased by

only 2.5 million. France outside Paris therefore actually declined by 2.3 million people during that period (Cammen, 1988, p.64). Merlin (1969) pointed out that:

“During 1850 to 1950, although the population of France remained constant, during this time the urban population doubled and that of the Paris region trebled, because of migration from the provinces and abroad”.

(Merlin, 1969, p.148)

The concentration of physical developments in Paris was increased by the administrative centralisation such as government, banking and other services. It had also become the centre of investments in France where cultural centres, universities, theatres, and different activities existed. Paris region had increased to 7,369,387 resident in 1962 (Demographia, 2001b). Actually, the population growth in the Paris region was as a result of three main factors. It resulted from a natural increase and a marked excess of immigrants until 1974; the internal migration between the Parisian region and the provinces; and the wave of urbanisation rose during the 50's, reached its peak in the 60's, started to decline in the mid 70's (Cammen, 1988, p.73). Thus, the French public became increasingly aware of the growing imbalance between Paris and the rest of the country. In 1910, a committee for the expansion of Paris was established, a competition was organised for a plan to develop and expand Paris.

In 1928, a committee for the development and general organisation of the Paris region was founded, known as the 'Comité Supérieur d'Aménagement et d'Organisation Generale de la Région Parisienne' CSAOGRP (Committee for the Development and General Organisation of the Paris Region). This committee decided that there would be further population increases in Paris which will be a major problem and that it should be limited to its scale. In 1934 Henri Prost submitted a plan designed to limit the urban

growth of the Paris region. It proposed the construction of five urban motorways and a Ring Road about 30 km from the centre to link them. The plan contained areas for garden cities influenced by the 'Garden City' movement in Europe. Later, the plan was revised and considered as a basis for the 1960 PADOG (plan for development and general organisation of the Paris region), its proposals included three of the main urban nuclei suggested in the suburbs (La Défense, Vélizy-Villacoublay, Créteil). The plan also provided the basis for planning public utilities and amenities in the suburbs (Merlin, 1993, p.59-64).

But at that time, extending urban boundaries of the Paris region was not so accepted; planning trends were more towards finding a balance between housing, employment and amenities, and these could only be achieved through large-scale, long-term projects. Therefore, the idea of building new towns emerged, which was a plan of gradually transforming the Paris region and its suburbs into several centres, Paris remaining the principal centre. In 1961 an institute for Development and Town Planning in the Paris Region (IAURP now IAURIF) was established as a research organisation. The idea of new towns started from the 1965 master plan for the Paris region through the SDAURP (the Schema Directeur d'Amenagement et d'Urbanisme de la Region de Paris).

"The SDAURP was the first official document in France to propose the construction of New Towns. It called for the accommodation of most of the Paris region's growth in peripheral New Towns".

(Rubenstein, 1978, p.9)

The plan described the first five new towns to be located in the Paris region showing the importance of creating them and the need for an intervention by the authorities to

control growth in the region. It was based on some town planning principles: the new town centres, urban development axes, and the unity of the urban region achieved by means of effective transport networks. This was to ensure a balance between areas of housing and employment, and to provide a complete range of services to encourage the inhabitants to remain. At the same time these principles were required to take into account many geographic limits, and to contain further expansion for the future (Ploegaerts, 1993, p.9).

After the idea was subsequently extended to the major provincial towns, the overgrowth population problem that the Paris region faced was the strike that changed French urban policy directions and then spread into the whole country. While the Paris region' regional planners were calling for the building of new towns, the national planners were also attracted by the idea and so studies were carried out in the three metropolis of Lille, Lyon, and Marseille, deciding that regional growth would have to take place outside the existing urbanised areas (Merlin, 1969, p.168). Thereby, nine new towns were built in France called "Villes Nouvelles"; these new towns were planned in the sixties and launched in the seventies.

It was thought at that time that the needs of each region in France, including the Paris region, would be far greater in the future than it was, with the facilities available whether of housing, transport, or leisure activities, unable to meet the demand. The government document in support of French new towns decided five new towns located in the Paris region, and later it suggested four more to be spread in other areas in France. There were large-scale constructions dated from around 1970, and by the late 1970s the French new towns were creating around 20,000 housing and 15,000 new jobs

per year (Rubenstein, 1978, p.2). Plans for the new towns, those of Évry and Cergy-Pontoise appeared in 1966, those of Saint-Quentin-en-Yveline in 1967 and those of Marne la Vallée and Melun-Sénart in 1969. At the beginning, work was carried out by the planning commission, which was later transformed into development organisations of a public character (the EPAs). Studies for Évry and Cergy-Pontoise were farthest advanced and public bodies were established in 1969 taking over from planning commission (Cammen, 1988, p.97).

3.2.2 French New Towns' Organisations and the Financing System

During 1950s, the agency responsible for implementing regional development policies within the ministry of construction was the DAT (Département d'Aménagement du Territoire). At that time there was a division of responsibilities in the government, between economic planning and regional development. But in the 1960s this was changed, the DAT planners within the ministry of construction was engaged in the preparation of a national physical plan for the location of new sites (INTA, 1981, p.25). Between 1962-65 new organisations were created at the regional level to assist the central administration with the establishment of regional economic policies. The new policies suggested the creation of a master plan of several new towns to be located mainly around metropolitan cities.

French new towns were considered as projects of national importance and there were five institutions participating and playing role in producing the French new towns system. The first institution was the SGVN (the Secretariat of Central Group for New Towns), which brings together all government departments and ministries that have authority over new towns, and it is responsible for the co-ordination of finance

programmes, as well as for general economic and social development policy and local government organisation. The second institution was the EPAs (the New Towns Public Development Corporations), established by government orders between 1969 and 1973, and whose role is to plan, develop and market the land in each new town. The third institution is the SANs (the Associations of New Towns Communes), which are groupings of the communes in which the new towns have developed. Since 1983 the SANs have been responsible for master-plans, land use plan and concerted development zones. The Fourth institution was the new towns communes themselves, which manage local facilities. Finally the regions, which had to invest in the development of the new towns located within their respective boundaries as the Ile de France (Greater Paris) region (Chomentowski, 2000, p.2).

In regard to the new towns' financing system, French new towns, from the beginning were classified as priority operations by the government. The Government thought that it is better to associate those normally involved in urban development projects and thereby distributing the tasks between them for developing and financing new towns projects under its control. These associations were: the Ile-de-France Région which partially finances main roads, guarantees the debits of new town development corporations, and pays a proportion of the deferred repayment on loans taken out by local government authorities. The other one was, the local authorities acting as contracting authorities taking out loans for public amenities such as water supply and drainage networks, schools, and social amenities. The third one included the private and council houses, which were built by housing promoters with the help of the government. The forth association included specialised investors and businesses that

pay directly for the construction of shopping centres, office-space and industrial areas (Beghin, Guillaumin and Debost, 1993, p. 134-135).

French authorities had created a system that preserved both the roles of the local authorities and the private sector in the development of the nationally financed new towns. The private sector had participated in the process, but the French system had a more rational method for preserving the profitable participation of private developers in the new towns development process. Development works were divided into a collection of smaller projects that can reasonably be managed by private developers and in this way private developers can achieve profits in their normal manner, while the risks are taken by the only institution large enough to do so, which is the national government, as Rubenstein (1978) pointed out that:

“New towns’ economical success depends upon a rational distribution of responsibilities between the public and private sectors”.

(Rubenstein, 1978, p.91)

3.2.3 French New Towns’ Characteristics

New towns around Paris are located along two development axes, and in the extensions of their ‘mothers’. Also, the other four were similarly close to major cities, such as Lyon, Marseille, and Rouen (Interreg 2c NWMA, 2000, p.16). The first five built new towns located in the Paris region are: Cergy-Pontoise, located 35 Km north-west of central Paris; Évry, 35 Km south; Marne-la-Vallée (formerly Noisy-le-Grand), 25 Km to the east; Melun-Sénart (formerly Tigery Lieusaint), 35 Km south-east; and Saint-Quentin-en-Yvelines (formerly Trappes), 30 Km south-west. The other four new towns are L’Etang de Berre, 15Km north-west of Marseille; Lille-Est, 5Km east of Lille;

L'Isle D'abeau, 35 Km east of Lyon; and Le Vaudreuil, 25 Km southeast of Rouen (figure 3.4).

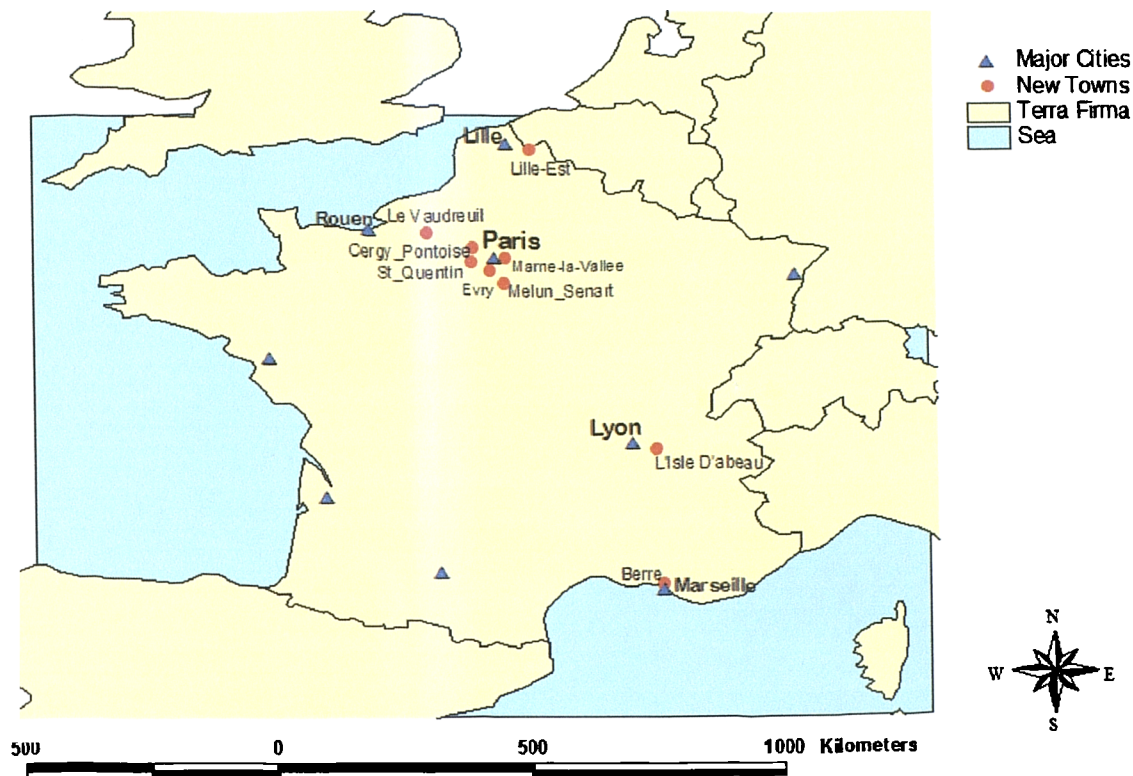


Figure 3.4: French New Towns Outside the Paris Region.

Source: By Researcher based on GIS and ESRI information; and Ploegaerts, 1993, p.4.

It appears in (figure 3.5) that the five new towns surrounding Paris were organized according to the two main axis for development. One axis for new towns of Cergy-Pontoise and Marne-la Vallée and the other one for the new towns of St-Quentin, Évry, and Melun-Senart. As these new urban developments were to be on virgin rural sites, they had to be supported by a powerful transportation infrastructure (Cammen, 1988, p.103).

The aims of establishing the French new towns did not differ from the British new towns aims, such as reorganising new concentrations of employment, housing, and

services; creating self-contained cities and counteracting the uncontrolled development and ease congestion in urban regions, especially the Paris region, where new towns around are established as a growth centres to be a counter-pull to attraction of Paris. A whole programme of industrial location and incentives were developed to encourage industrial development in depressed areas (INTA, 1981, p.25). In the Lille region, the Lille-Est new town was needed to provide services and facilities for a large university complex being built to the east of the city. At Lyon, the L'Isle D'abeau new town was proposed to resist the tendency of the Lyon suburbs to sprawl in all directions. It is located on the east side of Lyon in order to preserve natural amenities elsewhere in the region and to strengthen the development of axes between Lyon and Grenoble, Chambéry, and Annecy.

In Marseille, building Berre new town was a response to the desire of increasing the port capacity because large-scale expansion was blocked at the existing port area, and a new port is being built on the Gulf of Fos to the west of Marseille. And finally, in Rouen, a new town called Le Vaudreuil aimed to help organize the large-scale growth anticipated in the Basse-Seine corridor, which extends from Paris to the English Channel at Le Havre. It was designed to prevent this growth from occurring in sprawling extensions from Paris and other major regions by channelling development into the new town (Rubenstein, 1978, p.11). Basically, there were important points well considered in the master plan of the French new towns, related to the foundation of urban centres, the integration of urban forms, and architectural quality. These three aims were actually pursued with varying success in all the French new towns, which were planned on a large scale and were expected to contain nearly three million residents. The planned sizes ranged from 140,000 for Le Vaudreuil, to 500,000 for

Évry and Berre. The others were expected to be around 250,000-300,000 for each (Ploegaerts, 1993, p.11). One example of the French new towns will be described to derive more about the main characteristics of the French new towns programme.

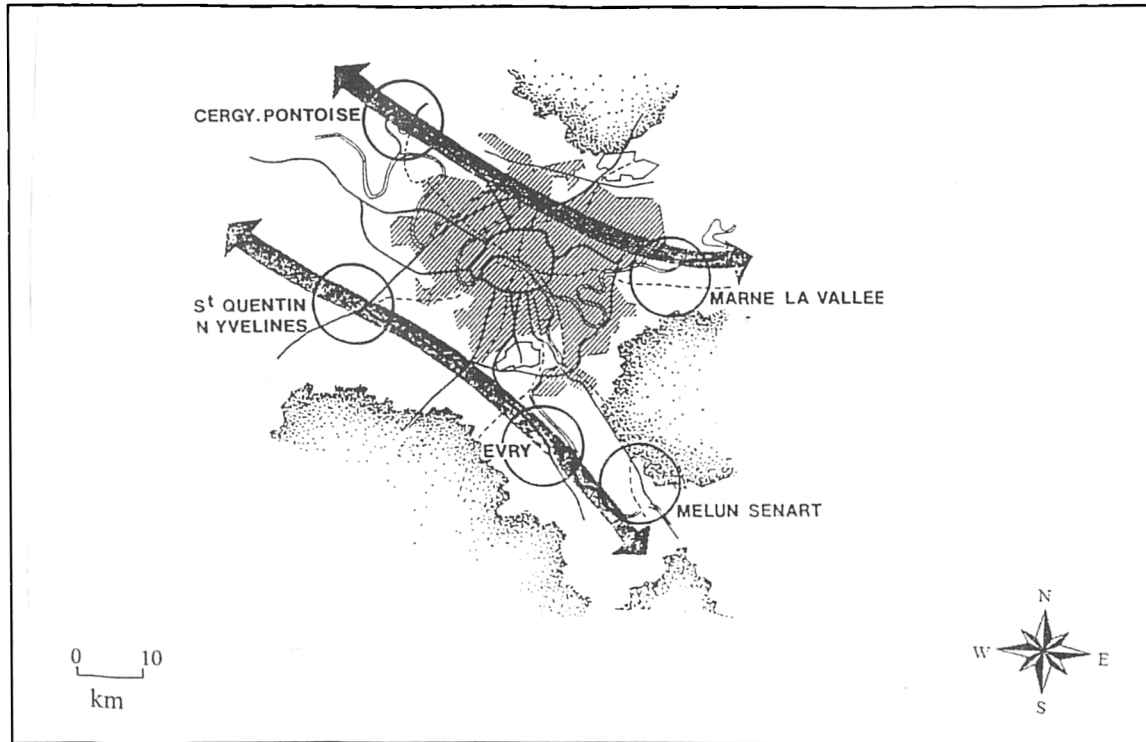


Figure 3.5: Paris Region New Towns.

Source: Michel and Warnier, 1993, p.207.

Cergy-Pontoise Town

The town is located north-west of central Paris and is a horseshoe-shaped town according to the characteristics of the site. Three motorways serve it and one or more lines of express rail. Up to five sectors were built in the new town, each sector was planned independently and once the first was built, an urban centre was established. One of the sectors is that of the prefecture between Cergy and Pontoise, the other one is Eragny, the third is Puiseux- Courdimanche which contains the main centre, the fourth is Boisement-Vaureal and the fifth is Jouy-le-Maurecourt (figure 3.6). Entertainment areas are within the meander of the Oise, consisting of a centre for water, sports and

parks, these areas are not crossed by any motorways but most of it is accessible by car, except for the lake and beaches which are served by public transport. Two large urban centres are built in the new town, the first is that of the prefecture and the second is the main centre of Puisseux-Courdimanche as a large recreation and leisure area (Michel and Warnier, 1993, p.213).

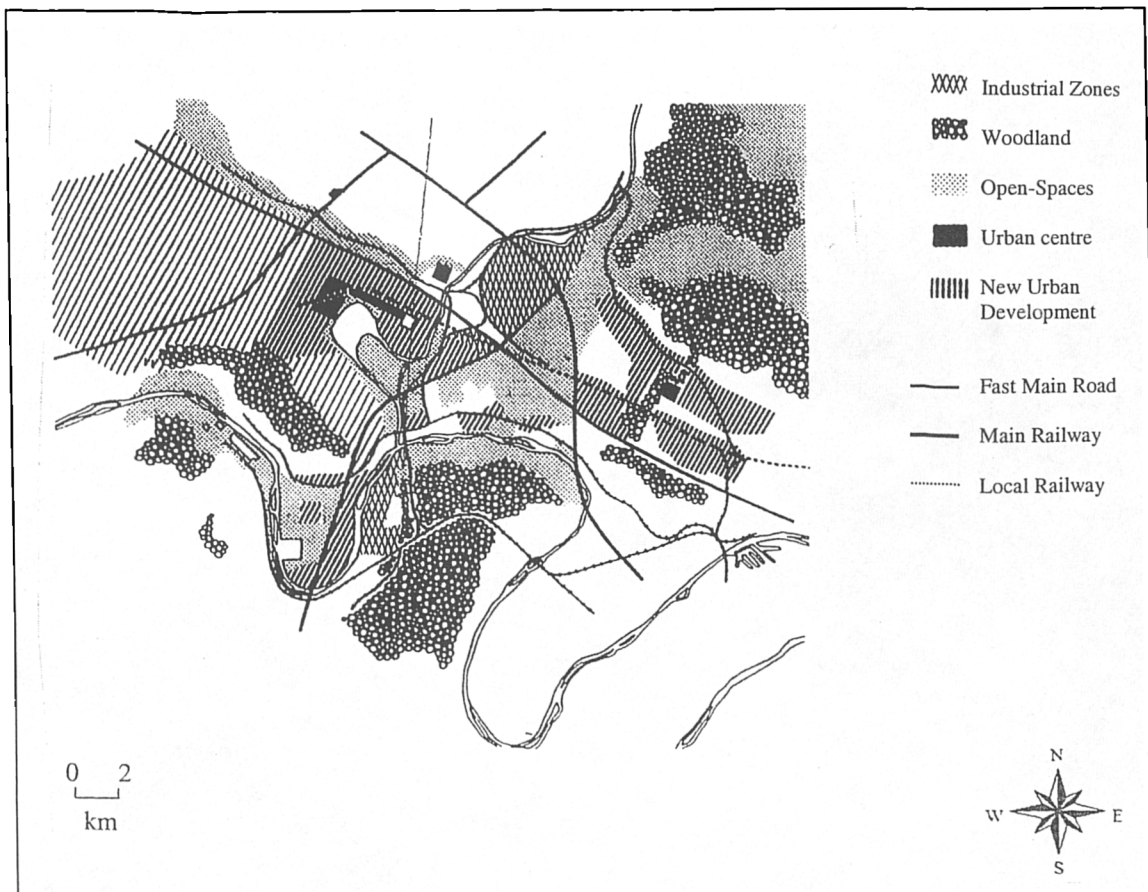


Figure 3.6: Cergy-Pontoise Town Master Plan.

Source: Merlin, 1969, 158.

Actually, the previous example and other French new towns shows several principal points that were followed generally in the planning of the new towns programme in France. One point is the major role given to the urban centre in the master plan for the whole region, where the urban centre is at the middle of a ring of existing urban

developments such as in Évry new town (the built-up area of Corbeil, Viry-Chatillon, Sainte-Geneviève-des-Bois, etc.); another example that confirms this point is the Marne la Vallée new town urban centre (Noisy-le-Grand) that is linking suburban developments and at the head of a line of new urban developments established on the plateaux above the left bank of the river (Rubenstein, 1978, p.154). It is thought that the creation of a centre of work and amenities will be an aid in the restructuring of the life of a new town.

The second point is the importance given to transportation infrastructure in each case of the new towns, with little difference between one town and another, but with the same policy principle. The existence of main roads connecting the new town to the 'mother' city and to other new towns was one of the main principles in the SDAURP master plan and this had appeared in examples such as in Cergy, where rail connections had to be improved; and in Marne-la-Vallée, the RER regional express rail links were improved; and in La Vandreuil, a railway station was built (Beghin, Guillaumin and Debost, 1993, p. 132).

Further, Merlin (1969) explored other characteristics such as the importance stressed on providing the balance between employment in the new towns, and the resident population. According to the master plan, studies relied on the hypotheses varying between 75 jobs in the Marne la Vallée and 90 at Cergy-Pontoise for every 100 workers resident in the new town. Also, the interdependence of the different units making up the new town such as the centre and entertainment areas, employment areas, and the residential areas as well (Merlin, 1969, p.163-164). As Ploegaerts (1993) stated that:

“Development operations started with the centre of the new town, grouping government-administrated infrastructures, amenities and public utilities around existing or planned public transport networks, and building stable urban nuclei capable of providing substantial impetus to further development options possible”.

(Ploegaerts, 1993, p.15)

And finally, in regard to location the French new towns were close to their ‘mothers’ major cities in all the cases of the nine new towns particularly the four towns outside the Paris region. In spite of that sites of the five new towns around Paris were chosen on virgin lands (undeveloped previously), they were supported by a powerful transportation infrastructure. Besides, the nine new towns were built within green field areas but, however, these areas were infertile.

3.2.4 Conclusion

After a period of growth in the 50s-70s, urbanisation in France fell back in the early 80’s, in consequence French new towns did not achieve the predicted percentage of population to occupy them, it was stated that:

“In the Ile de France (Greater Paris) region, the population grew to 11 million inhabitants, whereas, the regional master plan had forecast 14 million, thus, in terms of size, French New Towns catered for between 100,000 and 200,000 compared to the expected 300,000 to 500,000 initially”

(Chomentowski, 2000, p.5)

But in spite of that, the major achievement of the French new towns is that they became strong commercial and employment centres. They have succeeded in offering much more job-opportunities than else where in the French suburbs. In addition to that, is the creation of socially balanced communities in a good living environment with a great mixture of different housing types and balance between residential and other functions,

which is also better than the situation of sprawling in suburban areas, Fournier (2001) stated that:

“ 30 years later, the French new cities pass from the construction of the city to urban management, with social and cultural installation. In parallel, their attractively overflows largely on the whole of their area of which they became dynamic actors”

(Fournier, 2001, p.2)

Also it was stated in the INTA conference that:

“The French have achieved accepted New Towns’ goals. This was because they had a relatively good income; they have a high degree of architectural variety and boldness; have a large amount of open space, compared to the crowded inner part of the Paris region; and also they contain a good balance of jobs and housing”

(INTA, 1981, p.27)

The nine French new towns from the beginning were designed to meet overall needs more than the specific interests of such a region; it was recognized as developments considered being in the national interest. In addition, the French had succeeded in the system they had created for the development process. They had preserved both the roles of the government and that of the private sector; enabling the private sector to profit as well as to support the creation of new towns but at the same time preventing the new towns from becoming merely profitable activities for private developers. There was a good distribution of responsibilities.

And finally, the importance given to the new towns’ centre and also to the transportation infrastructure (the external as well as the internal) had actually played a major role in the success of the French new towns, as these two points contain job opportunities and the connection with the environment around, which are the main things that concern the inhabitants to a high extent. The creation of new towns’ urban

centres, at the same time of developing an initial sector in the new town, had helped in providing these job-opportunities that attracted people to the town, “these centres had welcomed and supported small and medium-sized and became favoured locations for start-up companies”(Merlin, 1969, p.9).

Regarding the point of transportation infrastructure, the French new towns were located on an interrelated transportation network, that gave the feeling of a practicable connection with the environment around, which had actually reduced the feeling of isolation that often happen when people occupy a new place. “France, at the regional level had put a great effort of construction of railways and motorways, that each new city profits from” (Interreg 2c NWMA, 2000, p.17). In my opinion, these two elements are from the most major elements that give the sense of settlement, which everyone of us seeks after. Thus in fact, French new towns had offered useful lessons in the field of new towns’ experiences.

3.3 Other Countries’ Experiences in the Developed World

Many other new towns were built in different parts of the developed World (Western World), but with different aims and different policies in managing and financing them; such as in the United States, the Soviet Union, Eastern Europe, Canada, and the Netherlands, etc. As the Soviet Union Governments had developed large national new towns building programmes, even earlier than Britain, before any general control of growth or regional arrangement had emerged, it was so much a part of a national plan for economic development and resources exploitation more than a programme of decongestion (Perloff and Sandberg, 1972, p.vi). In Sweden it was suggested, in the Stockholm regional plan, that a series of small urban centres to be replaced by new

generation of similar projects but quite larger (Merlin, 1993, p.65). However, the financing mechanism in the USSR, Eastern Europe or Sweden, Britain or France was using public funds mostly. Whereas, this was different from the financing policy in the United States, where promotion is private and profit-oriented. Therefore, it would be useful to explore briefly the United States experience in the same field to find out how the process becomes when the main role in managing and financing the new towns programme is given to private sector.

In the United States, nearly half of the population became urban in the 1920s. Central areas became the location of administrative and political functions together with housing. In 1923 there was a trend of establishing garden cities such as the Garden City of Radburn, New Jersey 1928; the Greenbelt towns constructed in America during the 1930s (Cullingworth, 1997, p.50) as there were three Greenbelts- the Greenbelt near Maryland, Greenhills near Ohio, and Greendale near Wisconsin. These projects had housed low-income American citizens but were not self-sufficient in providing employment and job opportunities. After that, in the middle of 1940s, at the end of World War II, a process of suburbanisation had been emerged in the United States. It was the movement of population from cities or urban groupings toward the suburbs; and during 1950s-1960s, the suburban population increased from 35 to 84 million; and in the 1990 suburbs were containing nearly half of the population (Clawson and Hall, 1973, p.87).

But planning in the United States is different from planning in Western Europe. The difference is mainly in the way of financing and developing the projects. This is due to the federal system and the principles of free enterprises in the United States. Land use

planning is mainly determined locally. In 1970 the Housing and Urban Development Act gave extra funds to local governments across the United States by its control over federal funds for the creation of new towns under the aim of transferring part of metropolitan population towards self-contained new towns. Even in the development process of the new towns, the private sector played the most important role and so it was responsible for development proposals. This was because of the limited powers of the official planning bodies and the free enterprise system in America.

New towns' developers in America had thought that these developments could be profitable projects for them, as Merlin (1969) stated that: "In fact, the new towns of the USA are for the most part private and profitable undertakings" (Merlin, 1969, p.178). Although private developers had to finance the project but, in addition, there were four types of financial assistance supporting new towns funding. The first one is the loan guarantees, and here the private developer could receive up to \$50 million in government guarantees for loans to acquire and develop the new town site. The second one is the loan of up to \$20 million for fifteen years per project, this was authorised to assist the developer in making interest payments on the loans. The third one is the supplementary grants, in this type the new towns were eligible for grants under a variety of federal programmes, a new town project that received a federal grant could then get a supplemental grant to assist the local government's contribution when required. The final one is the special planning assistance, where extra money was authorised by congress for the provision of assistance to developers for different technical facilities in the new town (Rubenstein, 1978, p.15).

Because such projects require a huge amount of funding, some companies were unable to complete the project and became bankrupt; they had to sell the project to another promoter. This had led in some cases to implementation failures, because although there were loans, the developer still had to repay these loans and the interest payment was more than the revenue that could be obtained from the project especially in the early stages of the new town life. The real problem is that new town is much too bigger for private developer to organise and fund and takes a long time waiting for profits. Therefore, many of the private corporations had announced bankrupt and were not able to continue with the process.

In regard to American new towns' characteristics concerns, most of them were located in the orbit of major metropolitan areas between 20-50 km and the majority are chosen on empty large-scale lands, far beyond the established urban areas where there are no infrastructure facilities existing, such as water, electricity, sewage, etc. And in this case providing extremely new infrastructure would cost the developer too much, as site selection was affected by the land price, the site availability and also access to regional transportation networks. The size of population in new towns constructed was less than 100,000 resident in most of them, but they were somehow large in size area, especially those in the south-west area of the nation. Whereas, in accordance to density, the higher densities were in the new towns of the Mid-Atlantic region and the lowest were in the south-western new towns. In practice, the large size of some of the American new towns had caused problems in programming and financing the projects (Clapp, 1971, p. 118-119).

Actually, due to the private nature of the American new towns, most of their problems were related to financial matters, and also new towns were never implemented within the context of a national urban growth policy. The developer decided the location of the new towns where it is suitable for him according to financial considerations instead of being based on planning and social objectives considerations. Bailey (1973) pointed out that:

“If we to produce ‘new’ new town and exploit the intrinsic real advantages of large-scale development, we need management, financial, and technological organisation capable of moving total environmental packages -housing, infrastructure, community facilities, open spaces, and commercial/industrial- on an integrated volume production basis”.

(Bailey, 1973, p.116)

Although it was authorised for the Housing and Urban Development Act to provide loans and guarantees to private developers of new towns but, in practice, this financial assistance had permitted the developer to borrow money below market rates, thereby, reducing the overall project costs. The American experience in new towns shows that large-empty and lower-cost sites seem to be more expensive. It resulted in substantial increases in other costs such as transferring labours and materials for the new town, new infrastructure facilities and pre-improvements to site for marketing purposes and this would result in a costly delay in the developing programme. Basically, instead of providing self-contained communities, the American new towns had become merely profitable investment projects.

3.4 General Conclusion

It can be observed from the new towns experiences in the countries of the western world that the new towns programme was constructed for different purposes in these

countries, whereas in Britain and France the aim of building the new towns was, to an extent, similar in many aspects. New towns were created to ease congestion and decentralise population in major cities and reorganise the concentration of housing, employment and other services in the whole country, at the same time activating depressed areas by creating self-contained communities encouraging industrial developments in them; also, these new towns were concentrated in the orbit of major cities with little difference in the distance from the 'mother' (major city).

Deciding the new town distance and location had differed from one country to another, as for instance, in Great Britain, the site was to be decided by central government after consultation with local authorities; then, the development corporation is permitted to buy the land and begin its development process. In France also, central government was responsible for that. Whereas in other countries such as in the United States, the location was decided by the private developer according to financial considerations related to him, and because of his investing nature, he was to choose land of cheaper price and large-scale area to build the new town, ignoring the expenses that should be spent for preparation and development on virgin empty sites, providing mainly new infrastructure. This was, in most of the time, over the developer capacity for funding, and led to the inability to complete the development process and, consequently, selling it to another developer. Yet this did not happen in France and Great Britain because of Government control and its sufficient capacity to fund such expenses.

Planning large-scale projects by private developer were not practical because of the great amount of money required from the developers to spend and, at the same time, it takes long time to get the money back and collect its profits. Further, it was noticed in

the British experience that the Government had sometimes chosen locations where small villages existed to build some of their new towns, extending by that the infrastructure of those villages to the new town location, which was helpful particularly in the initial stages of constructing the town and thereby the development process was quicker and less costly. This was unlike the United States new towns, that were planned on empty, virgin, and relatively far areas at cheaper prices, and where there was no way for extending infrastructure and required building a newly expensive one.

The size of the population projected in the new towns of the British experience was more practical than that in France. Population projected in the French experience was larger than required as population growth trends reversed after a time of constructing the new towns. So, it would be preferred in deciding the size of population for a new town to be taken from the middle range of population growth trends. Nevertheless, the French experience on the other hand had two positive points related to the importance given to the priority of constructing the towns' centre and also the powerful transportation network connecting the town to the areas around. The government had considered these points in the program and had succeeded in applying them.

However, it can be concluded that the French and the British new towns experiences in the new towns' programme were better integrated into public policy than that of the United States. The rational distribution of responsibilities between the public and private sector in the British and French experiments had preserved the roles of both the government and private developers. It is realised that leaving the private sector to play the major role, had made the new town a profitable project. The private sector is concerned about profits more than about any other considerations, whereas, the public

sector is concerned to ensure that the development accords with the standards set out in the legislative instrument and about future costs of maintaining, consequently, try to ensure the maximum amount of public benefits from developers who are involved in the process in specific areas. Thus, there is no way without Government participation and control for the sake of performing a successful new town.

In the following chapter some more experiences of new towns will be explored and studied but this time in the developing world where the research is concerned mainly. Those countries had applied the same policy and have useful lessons worth studying them before coming to the main research field in Egypt.

Chapter 4:

New Towns in Developing Countries (Middle East and North Africa)

4.0 Introduction

The previous chapter was concerned with the new towns programme in the developed world. This chapter will illustrate the results of applying the same policy in the developing world, particularly in the area of the Middle East and North Africa. Although there are some diversities between these developing countries, for example in terms of social organizations, economy, and the size of the states (differing from countries of 30 sq.km to 2,381,741sq.km), there are many common things, such as the Arabic language and Arab nationalism (with some exceptions in the cases of Turkey and Iran), the religion (again with some exceptions), and also the traditions and population growth trends, particularly the birth rate and rural to urban migration trends. It was not until the mid of the twentieth century that the rate of urbanization in the area of the Middle East and North Africa began to grow rapidly. Before that, the towns in these areas were not only smaller but also fewer in number, ranging in size from 15,000-100,000 residents (Dwyer, 1974, p.71). Later in the 1960s, the rate of urban growth witnessed an unexpected acceleration and there was an increase in urban population particularly in major cities. As Castello (1977) pointed out:

“After the Second World War there was a significant growth in urban population in the Middle East and North Africa, at first slowly but gradually accelerating and this was in common with other parts of the third world”.

(Castello, 1977, p.22)

This was due to two main reasons. Firstly, natural increase was supported by the better medical facilities, services and housing conditions that were improving in major cities. Secondly, the rural-urban migration from countryside to major cities contributed to the growth of population in the cities. It was estimated that between 1960 and 1990, 60% of the growth in cities of developing countries came from births and 40% came from

rural-urban migration and the expansion of boundaries (UNCHS, 2001c, p.3). Similar reasons were behind the rural to urban migration in the countries of the Middle East and North Africa. The inhabitants of villages and small towns had thoughts about the big cities and the better life that might await them there. As Abu-Lughod (1979) stated:

“Large number of youths, their aspirations fed by education and literacy, migrate to metropolitan cities where they are rapidly assimilated into urban life”

(Abu-Lughod , 1979, p.23)

In addition to migration from rural to urban in the same country there was the migration of population from poor countries to wealthy ones. For example the oil industry attracted migrants to the major cities such as in Saudi Arabia, Bahrain and Qatar; and this had increased the pressure of urban growth in these countries, which came from migrants coming to the cities from both inside and outside the nation (UNCHS, 2001b).

Another reason, in addition to the previous ones, that causes problems of population pressure in particular cities in the area of the Middle East and North Africa is the imbalance in the spatial and population distribution according to physical and geographical factors. Population density is restricted to areas of higher water availability where much more intensive agriculture is possible, such as areas along the Nile Valley and the coastlands of the Mediterranean and Red sea (figure 4.1). For example, Egypt for many years faced uncontrolled urbanization, which expanded over the insufficient valuable agricultural land in the Nile Valley and Delta. About 45% of the Egyptian population lives on 4% of the land area (Rizk and Rabie, 1991). In Morocco, a zone of no more than one hundred miles long and thirty miles wide of the coast, is inhabited by nearly a quarter of the population of the country. It is the same in

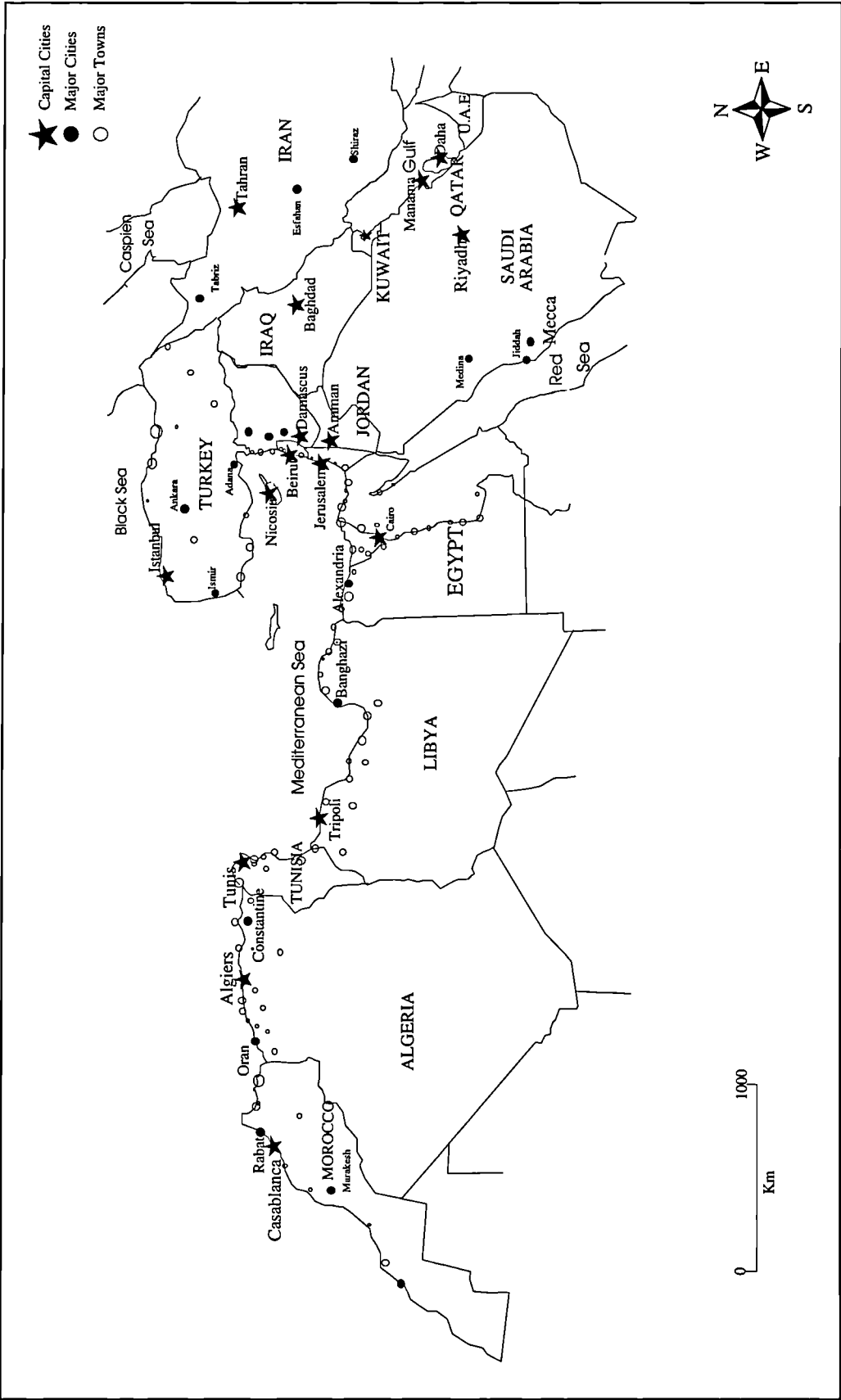


Figure 4.1: Urban Areas in Countries of the Middle East and North Africa.
Source: Collins, 1999.

Tunisia and Algeria, with a difference in the dimensions of the area (coastal land) that most of the inhabitants are occupying (Dwyer, 1974, p.76). Also in Syria, most major cities are located in the western part of the country, within 200km of the Mediterranean Sea, that borders the country from the west; etc.

Countries of the Middle East and North Africa experienced, and are still experiencing high urban population growth rates. In the 1990s it was estimated that nearly 60% -as an average- of the population were living in urban areas in these countries. For instance, in Egypt the percentage of population living in urban areas has increased up to 43.5% in 1975, and was expected to reach 46.4% in 2000, and 62.2% in 2025. In Saudi Arabia, this proportion has increased to 58.7% in 1975 and was predicted to reach 81.8% in 2000 and to 88.2% in 2025. In Syria, it has risen to 45.1% in 1975 and was expected to become 54.9% in 2000 and nearly 70% in 2025 (table 4.1). These high rates of urban growth came mainly from capital cities of these countries (table 4.2) because of the geographical advantages, especially accessibility, rich hinterland, and political and commercial ascendancy.

Country	Urban population (thousands)				% of population living in urban areas			
	1975	1995	2000	2025	1975	1995	2000	2025
Republic of Iran	15,278	39,716	46,171	92,491	45.8	59.0	61.9	74.9
Egypt	16,877	28,170	32,054	60,519	43.5	44.8	46.4	62.2
Turkey	16,651	42,598	50,701	79,102	41.6	68.8	74.8	87.0
Algeria	6,460	15,591	18,586	33,675	40.3	55.8	59.7	74.1
Morocco	6,520	13,071	15,096	26,917	37.7	48.4	50.9	66.2
Iraq	6,765	15,258	18,308	36,435	61.4	74.6	77.1	85.4
Saudi Arabia	4,257	14,339	17,388	37,618	58.7	80.2	81.8	88.2
Syrian Arab Republic	3,352	7,676	9,508	23,311	45.1	52.4	54.9	69.6
Yemen	1,147	4,877	6,550	19,674	16.4	33.6	38.4	58.4
Tunisia	2,797	5,093	5,806	9,784	49.9	57.3	59.9	73.6
North Africa	34,199	66,744	77,401	143,32	42.6	50.4	52.9	68.2
Middle East	55,918	141,61	168,27	321,31	47.1	64.7	68.1	78.9
Total	90,117	208,36	245,67	464,63	45.3	59.3	62.5	75.3

Table 4.1: Level of Urbanization in Countries of Middle East and North Africa.

Source: United Nations, 1994.

Actually, this concentration of population has caused regional imbalances. So there was an urgent need to decentralize this concentration, by investing and encouraging the growth of medium-sized centres in other areas in the country, sustaining them by industrial, commercial and housing services that usually attract people to metropolitan regions offering by that different opportunities for them to settle. The statistics contained within recent reports show that major cities in developed countries are rapidly disappearing from the list of the world's largest cities. At the same time metropolitan cities in developing countries, such as Cairo, Istanbul, etc, are joining the list of 30 largest cities in the world (UNCHS, 2001b).

City	City population (thousands)			Average of annual population growth %			
	1995	2015	1965-1975	1975-1985	1985-1995	1995-2005	2005-2015
Cairo, Egypt	9,656	14,494	2.8	2.4	2.3	2.1	2.0
Istanbul, Turkey	7,817	12,345	5.0	4.2	3.8	3.2	1.5
Tehran, Iran	6,830	10,211	5.5	3.1	1.6	1.7	2.3
Baghdad, Iraq	4,478	7,324	5.5	3.0	2.0	2.6	2.4
Algiers, Algeria	3,702	6,276	4.2	4.2	4.2	3.4	2.0
Alexandria, Egypt	3,577	5,546	2.5	2.4	2.4	2.3	2.2
Casablanca, Morocco	3,289	5,114	3.9	3.2	3.2	2.5	2.0
Tripoli, Libya	3,272	6,044	11.1	11.1	5.4	3.6	2.6
Ankara, Turkey	2,826	4,095	4.6	2.8	2.3	2.3	1.5
Riyadh, Saudi Arabia	2,576	5,117	12.0	7.1	6.3	4.1	2.8
Damascus, Syria	2,052	4,047	4.4	3.5	2.6	3.4	3.5
Esfahan, Iran	1,915	4,618	6.8	2.5	7.0	5.8	3.2

Table 4.2: Population Growth in Capital Cities of the Middle East and North Africa.

Source: United Nations, 1994.

Coping with the demands of rapidly growing urban areas and learning from the experiment of western developed countries, many Governments in countries of the Middle East and North Africa started developing numerous housing programmes in their metropolitan areas in order to formulate a strategy for dealing with this overgrowth and concentration of population, and relieving pressure on major regions. They started applying different planning policies to overcome the problem (as will be

explored later), and deciding, finally, on the strategy of new towns developments in their policy, benefiting from the studies and practice of the planned communities in the British Garden City and other Western Europe post-war experience in the field of new towns (Yuen, 2000,p.21).

Consequently, a number of new towns were constructed in different countries in the area, for example, in Saudi Arabia, there are two new towns, Jubail and Yanbu which are industrial cities. In Algeria 16 new towns were planned to be built. In Egypt, the largest number of new towns were built in comparison with other countries in the Middle East and North Africa. There (in Egypt), seventeen new towns have already been built and eighteen more are to be built by 2017. Although, the main reason for building those new towns in the area was to relief major cities from the problem of population excessive growth, some other countries had, in addition to this, another reason for constructing the new towns, as in Saudi Arabia and the Gulf countries. This other reason has been to encourage industry. In Turkey, Lebanon and Morocco, it was for rehabilitation and reconstruction; whereas in Egypt and Syria, it has been mainly for absorbing metropolitan expansion and pressure of growth and congestion in major cities. This will be further illustrated in the following examples of different countries and areas of the Middle East and North Africa and their experiences in new towns development programme.

4.1 The Experience of Saudi Arabia

4.1.1 Introduction

Before 1970, there were regional inequalities and imbalances between different areas in Saudi Arabia. There were also a concentration of industries, and trends of rural and

desert to urban migration in a few cities in the east and west of the kingdom such as Jeddah, Mecca, Riyadh and Dammam. This is in addition to international migration to these Petrol Producing Arab Countries, that had largely contributed to the urban expansion. The high growth rate, which marks the towns of the United Arab Emirates and Saudi Arabia, is due basically to the flux of foreign workers from Arab Countries- Palestine, Sri Lanka, Thailand, Philippines and the Republic of Korea (Kharoufi, 1995, p.8). This concentration necessarily contributed to regional imbalance and had caused a pressure on specific cities.

Therefore, the Saudi government started to solve the problem by initiating a massive low-income housing programme presented in two projects. One of these was the free land plots project that provided land grants ranging from 400 to 900 km² (each) in the suburban area, such as in Riyadh's suburbs. The other project was the REDF (Real Estate Development Funds) extension of Easy Term and Interest, which is free Loans to Saudi citizens who owned land plots as the REDF had given citizens 425,000 loans but these loans are currently given to Saudi investors to build housing compounds. Also apart from public housing projects, several private sector funded projects were implemented by charitable organizations to provide shelter to the poor and the homeless, who are found mainly in Riyadh and Mecca (Al Nuaim, 1996a, p.1-9). Actually significant progress was made in the development of institutions to tackle the problems of housing.

Consequently, the General Housing Department was established in 1971, under the Ministry of Finance and National Economy. This department later developed to become the Ministry of Housing and Public works. At that time the government started

thinking of much important aims. The problem of regional imbalance in the country had remained unsolved and, in addition to that, Saudi Arabia was witnessing a rapid growth in its economy fuelled by increasing oil revenues. Therefore, the government decided a comprehensive development programme for the country covering industry and housing infrastructure schemes. This programme was clearly evident in the Fourth Plan Regional Development Strategy for the kingdom. This plan aimed at increasing regional income through its objectives based on: firstly, pursuing balanced development through the encouragement of development in all regions and extending provision for basic services; and secondly, proceeding with the economic diversification of the regions in accordance with their productive potential and requirements (Rahmaan and Fadaak, 1993, p.48).

Thus, this was what was thought of as one of the main things to achieve through the development of new towns in the kingdom, as Al-Nuaim stated:

“New towns in Saudi-Arabia are a response to the government development policy of diversifying its economic base and reducing its reliance on the exportation of crude oil”.

(AL-Nuaim, 1996b, p.3)

So, in order to stimulate a more regional growth overall the nation, the Royal Commission for Jubail and Yanbu was established by a Royal Decree in September 1975 creating the basic infrastructure for two new towns that were decided to be developed, one on the Arabian Gulf and the other on the Red sea (El Mallakh, 1982, p.129). These two new towns -Jubail and Yanbu- were industrial in nature. Actually Saudi Arabia had started its experience in new settlements even before that, back in the 1930s, coinciding with the discovery of oil. So was in the construction of free-standing towns around oil extraction and exportation sites. These towns were built by petrol

companies investing in the area, such as ARAMCO, that had built Abqaiq and Rahima to accommodate workers in the oil fields and their facilities within close proximity to these fields. It had planned and built some-small towns next to each camp to provide housing to the workforce introducing by that a new home ownership programme for its employees. This programme had encouraged employees to build or purchase homes near their working places and had refreshed the existing cities increasing their number of residents such as the Dammam, Al Khobar, Dhahran and other cities in the eastern region that were followed in the 1950s by the free-standing border military towns which were built for defense purposes to preserve the national security such as King Khaled military city, Tabouk and Hafr El-Batin. And finally with the recent industrial towns of Jubail and Yanbu those were developed to diversify the economic base during the post 1973 oil boom era (Rahmaan and Fadaak, 1993, p.42).



Figure 4.2: Location of the New Towns in Saudi Arabia.

Source: By Researcher based on GIS and ESRI Information; and Daghistani, 1993, p.5.

4.1.2 Saudi Arabia New Towns' Managing and Financing System

In 1973 the Engineering and Construction firm, International Bechtel Incorporated (private-sector), was engaged to prepare a master plan for Jubail and Yanbu. This master plan was completed in 1975 under the control and sponsorship of the Royal Commission, which was especially constituted for this purpose in 1975. After one year the SARC (Saudi Arabia Royal Commission for Jubail and Yanbu) signed an agreement with Bechtel to begin the implementation of the master plan, assisted by the Royal Commission (Saudi Arabian Information Resource, 2001b). Funding housing sector was provided by different bodies such as the real Estate Development funds, the public sector represented by the Royal commission for Jubail and Yanbu, National Banks, the private sector either with loans from the REDF (Real Estate Development Funds) or without, joint-stock companies with funds from both the government and individuals, and institutions which provide housing for their employees (Al-Nuaim, 1996a, p.2-3).

Jubail and Yanbu new towns were constructed on lands owned by the government and nearly 50 billion Saudi Riyals were spent on the development of the two new towns during the period (1970-1985) by public sector and 73,480 Saudi Riyals million were advanced as housing building loans by the REDF (Saudi Real Estate Development Fund) during the period (1975-84) (Rahmaan and Fadaak, 1993, p.49). Industrial developments were constructed through private and public-sector co-operation, such as PETROMIN (General Petroleum and Minerals Organization) and SABIC (Saudi Basic Industries Corporation). Other different developments including infrastructure and superstructure, were to be financed by the Royal Commission for both towns (Rahmaan and Fadaak, 1993, p.54).

Residential developments were carried out in the beginning by the public sector and, later, the private sector was involved. For instance in Jubail new town by the end of 1978, the Royal Commission had built 700 housing units, and by 1990, these units had increased to 20,000. The Royal Commission continued regulating housing designs and constructions at Jubail, but in recent years, it has allowed the private sector to take a more active role in providing housing needs. As a result, industrial companies that are investing in the town constructed about 10,000 units recently. These companies are those such as the Primarily SABIC and Saudi ARAMCO Companies. The houses that they constructed were actually for their employees (Saudi Arabian Information Resource, 2001b, p.2). Basically, industrial developments in the two new towns were carried out mainly by the private sector. The two new towns were planned to be self-sufficient, providing housing and different community services for an expected population of 440,000 by 2010 (Saudi Arabian Information Resource, 2001a).

4.1.3 Saudi Arabia's New Towns Characteristics

The two new towns were built in Saudi Arabia in the 1970s and are, somehow, similar in their characteristics. Even their master plans were based on the same principles that had been followed in designing both of them. Jubail is located on the Gulf, 100 km north of Dammam city in the eastern province, and Yanbu is located on the Red sea, 320 km north of Jeddah city in the western province. Each of them has a modern port to handle industrial exporting (figure 4.2). Actually the choice of Jubail location is related to its proximity to cheap energy sources that would also supply the main raw materials for the petrochemical industries to be established there. Whereas the location of Yanbu is remote from the source of raw materials and energy, it is situated on a strategic location on the Red Sea that made it an ideal centre for exporting products to Europe,

via the Suez Canal (Daghistani, 1983, p.49). However the decision on the location of the two new towns was made not only by the government of Saudi Arabia, but also by the petroleum companies investing in the sites such as Petromin and Mobile-Oil. As El-Mallakh (1982) pointed out, according to the Royal Commission in the case of Yanbu:

“The site was selected after a preliminary investigation by Petromin and the Mobil Oil Company and a decision by the Government of Saudi Arabia”.

(El-Mallakh, 1982, p.133)

The aim and the site-selection of the two new towns were related to each other. The aim of developing Jubail and Yanbu industrial new towns was to “provide a substantial contribution towards the industrial development strategy of Saudi Arabia kingdom” (Rahmaan and Fadaak, 1993, p.54). It was the Government’s absolute determination to maximize the returns from the development of its natural resources (oil and natural gas) through generating additional value added to the petroleum industry, by introducing and developing modern technology, thereby, enhancing businesses and industries, associated with petrochemical industries. Also it was expected that the two new towns would reduce the effects of internal and external population shift to any particular region of economic attraction, achieving, as a result, the socio-economic integration required between various regions in the kingdom (Daghistani, 1993, p.5). Therefore one of the two plans will be explored more in details. It is Jubail new town.

Jubail new Town

The town is planned to be built on an area of 1,030 km². The plan consists of three parts: The northern part of the town is the permanent community and residential areas, while the southern part serves the industrial complex, and the part, in between the other

two parts, is a huge buffer zone along the industrial area, created to reduce pollution caused by industries especially towards residential area of the town (figure 4.3). The residential area consists of several districts and each district comprises four sectors. Every sector is a grouping of five to six neighborhoods that range in size from 2000-3000 residents. Within the neighborhood area there is a separation between pedestrians and vehicles movement. The town has a main centre of different community services, such as commercial, health, recreation and educational facilities. This is in addition to smaller centres with facilities appropriate to different levels of residential groupings - neighborhood, sector, and district (Mohanna, 1993, p.177).

Basically, the structure of the plan is based on the 'neighborhood unit'. The first constructions of housing in the new town were prefabricated buildings. This type of housing was the only alternative for temporary workers. But later, the permanent resident communities in the new town were designed on the housing standards and life-style of Saudis that requires privacy for women and more bedrooms for children. Most Saudis prefer detached houses and the plan had to provide such style to attract inhabitants from all major cities in the kingdom to live and work in the industrial city. However, the Royal Commission constructed various types of homes, including detached villas, townhouses, and multifamily apartment complexes (Saudi Arabia Information Resources, 2001b).

The industrial area in the southern part of the plan contains all industrial planned facilities on over 80km², classifying industries with similar characteristics together in one area. The primary industries are located in the south and south-eastern portions of the site, and secondary industries are to the west of the primary industries with roads

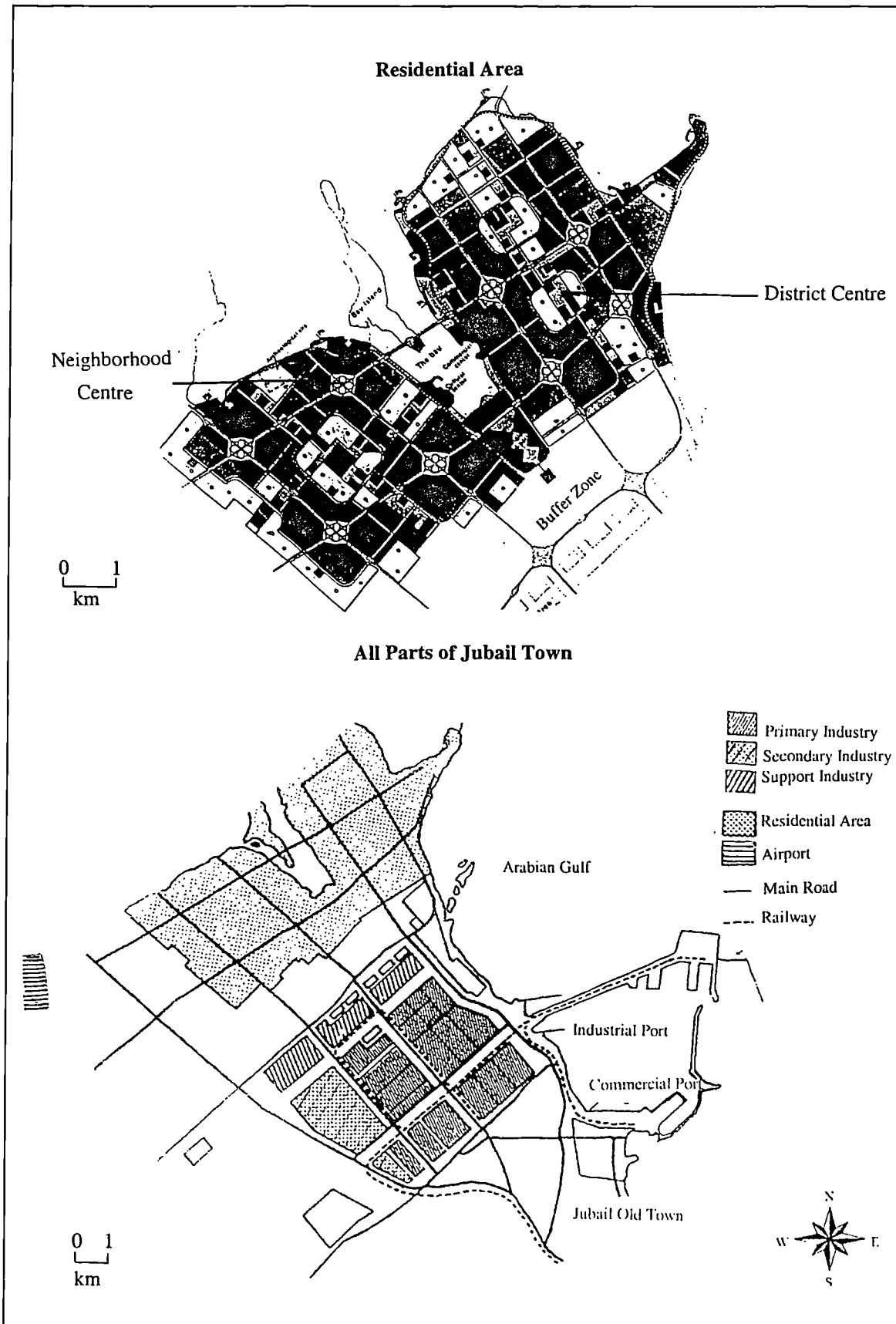


Figure 4.3: Jubail Industrial Town Master Plan.

Source: Royal Commission, 1988.

and rails connecting between them. Support industries, as they are less polluting are located to the north of both primary and secondary industries on the edges of the buffer zone that separates the industrial area from the residential one (Daghistani, 1983, p.89). Actually the industrial area had provided a lot of job opportunities that attracted people to the new town and played a role in determining the social-structure of the town. A great part of the residents were university graduates and working in skilled jobs within industries. Many were young with small families. This is in addition to the people of foreign cultures who were attracted to work in the new towns.

The transport network in Jubail as well as Yanbu towns involves main roads, railways and even internal airports that are connected to the main cities. In Jubail the transport system provides good connections in the town itself between residential and industrial areas and also outside the town to regional and national highways. This is in addition to a rail network that consists of two separate but inter-related systems. One is basically for the internal movement of goods within the industrial area and the other is a link to the national system at Dammam city (El-Mallakh, 1982, p. 132). Also an airport called Jubail airport is built on an area of 250km² to the west of the new town serving both the industrial area and the community. Further, as Jubail is located on the Arabian Gulf, two ports were constructed, one is an industrial port on the northern side of the harbour and the other one is a commercial port on the southern edge of the harbour. These ports were constructed by the General Ports Authority in the kingdom, working with the Royal Commission (Mohanna, 1993, p.179).

4.1.4 Conclusion

It can be concluded that the main aim of building new towns in Saudi Arabia was the same in both of the two new towns constructed. Even the structure of the master plan was the same in the designing principles (El-Mallakh, 1982, p.129), depending on two areas, one industrial and one residential. The two areas were planned on the basis of both, a grid network system and the neighbourhood unit. Jubail and Yanbu new towns are developed with the main objective of strengthening and diversifying the national economy, rather than solving the problem of population excessive growth. Also, they have played a role in reducing regional imbalance, pursuing socio-economic integration and development in all regions of the kingdom and creating a broader industrial base in Saudi Arabia.

The government had played the major role in developing and funding the two new towns. Problems of a financial nature did not exist due to the availability of money resources in the government budget, due to the fact that Saudi Arabia was considered as a rich country. But in spite of that, the private sector was involved in the development process, especially those industrial companies that were investing in the new town. Those companies had shared even in the site-selection of the new town but still under the control of the public sector. The sites of the two new towns were chosen in the orbit of major cities (Jeddah and Dammam), but with more consideration of being near to energy resources and exporting facilities. Therefore, the distance of each of the two towns from major cities was relatively long, ranging between 100-300 km.

Jubail's population grew up to 70,000 in 1999 and was expected to reach 280,000 in 2010. Also Yanbu population grew up to 75,000 in 1999 and was expected to reach

150,000 in 2010 (Saudi Arabia Information Resource, 2001 a). Despite the fact that the two towns did not yet achieve the projected population to occupy them after nearly more than 20 years, their population was acceptable to an extent. The two new towns had the ability to attract people to live and work in them probably because of the industrial nature of their life. Their success or failure may be related to international marketing and the limitations facing industry then, not only in Saudi Arabia but also in advanced western countries. However, Saudi Arabia had a good experience in the field of new towns. Although there are different economic circumstances facing Saudi Arabia and other countries in the area, it is useful to review and study its programme of new towns, as one of the major Arab Countries in the area of the Middle East and North Africa.

4.2 The Experience of Algeria

4.2.1 Introduction

Algeria is the largest country in North Africa with a landmass of 2,381,741 sq. km. However, most of this area, about 2 million sq.km, is a desert. Consequently the majority of Algerians are concentrated in the Northern part of the country, along the Mediterranean coastline, in an area that is 1,200 km long and 100 km wide. Thus, 87% of the inhabitants in Algeria live within 350,000 km², which forms just 17% of the country's land area (Kharoufi, 1995, p.4). The population density varies from 2,500 person/km² in the major cities (especially Algiers the capital), to less than 1 person/km², in the mid-Sahara, in the South. This situation is similar to the situation in Egypt (which is explored in following chapters), where most of the inhabitants are also concentrated in a small proportion of the country's land area along the Nile Valley and Delta (figure 4.1).

Algeria is divided into two parts: the Northern part and the Southern part (figure 4.4). The Northern Part itself is divided into two parts. The coastal part, that is between the Mediterranean Sea and the Atlas mountains, is fertile land; and the remaining larger part is semi-desert. All of the major cities are located on the coastal part that comprised three main regions. In the middle, the Algiers region includes the capital. To the west is the Oran region. To the east is the Constantine and Annaba region. Each of these regions has suffered from rural-urban migration and population congestion since independence. Algiers the capital, remains being the largest urbanised area. The city had less than 500,000 residents in 1954. This had increased to 1 million by 1966, to 1,483,000 in 1987, and to 3,702,000 by 1993 (United Nations, 1994). The Annual growth rate in Algiers (the capital) during the 1960s and 1980s was estimated to be 4.2%. Algiers is the country's main political, cultural and economic centre, and from its port oil products are exported (Boussora, 1990, p.3).

The rapid population growth in Algiers was mainly due to the large-scale drift of young people from the countryside to urban areas. This growth happened especially after Algeria gained independence in 1962. At this time new economic policies resulted in an emphasis transfer from an agrarian society to an industrial society. There was a rapid rate of industrialisation and an oil boom that led to a rapid growth in urban population, particularly in the cities located in the northern part of Algeria. Between 1960 and 1995 Algeria's population tripled, from 10 million to 29 million (Chapin, 1994, ch2). It is the process of concentration of economic activities in the main urban centres in the coastal region. These cities, particularly Algiers, had shared similar problems with major cities in Africa and the Middle East, related to the vast urbanisation that had followed industrialisation. During this period the government's attention was all focused on the

industrial sector and little attention was paid to the housing sector and to social needs. In addition private construction at that time faced tight government regulations.

But later, the government started feeling this excessive growth of population that was not accompanied by suitable infrastructure and public services. In order to solve this problem the government initially thought of freezing the housing sector in major cities to discourage migration to them. This did not work. Although the housing sector was frozen, migration kept flooding to Algiers, mostly. As a consequence of this policy there was a severe housing shortage and growth of informal settlements in the outskirts of major cities. That began in the 1970s, and those informal settlements lacked main facilities and infrastructure. As Christie (1984) states:

“Through the 1960s, and into the early seventies, policy in Algeria focused on industrialization, and because housing sector did not increase same as industry developments, therefore it was subject to severe overcrowding and degradation though lack of services and infrastructure”.

(Christie, 1984, p.89)

Later, the Algerian government proposed the planning of 5-7 new small towns on the Highlands in order to stop the migration from the Sahara region to the capital city of Algiers. The first attempt to do this was the building of ‘Revolution Villages’ that were of a size of 2,000 – 5,000 in population each. However, those were not enough to solve the problem (Berry, 1993, p.138-152). Therefore, during 1970-1973 the government thought of a new policy to overcome the problem. This was to limit urban sprawl by creating industrial towns near new factories with good connections to major cities, particularly to Algiers, Constantine, Oran and Annaba.

The new towns idea in Algeria goes back to 1854 when the country was occupied by France. At that time there was the intention of the French government to create a new

town outside Algiers city and three master plans were produced in 1858, however the new town was not built. Later in 1930 two master plans were prepared called, 'Vertical Garden Cities'. Each town was to accommodate 180,000 to 220,000, however the project was rejected (Lèspes, 1980). Thirty years later, when Algeria had obtained its independence in 1962, and with the appearance of industrialization, which brought with it problems of population increase and concentration, the government began to pay attention to regional planning issues in the country. In the country's first national plan (1967-69) the administrative boundaries of the regions and the desert were redefined.

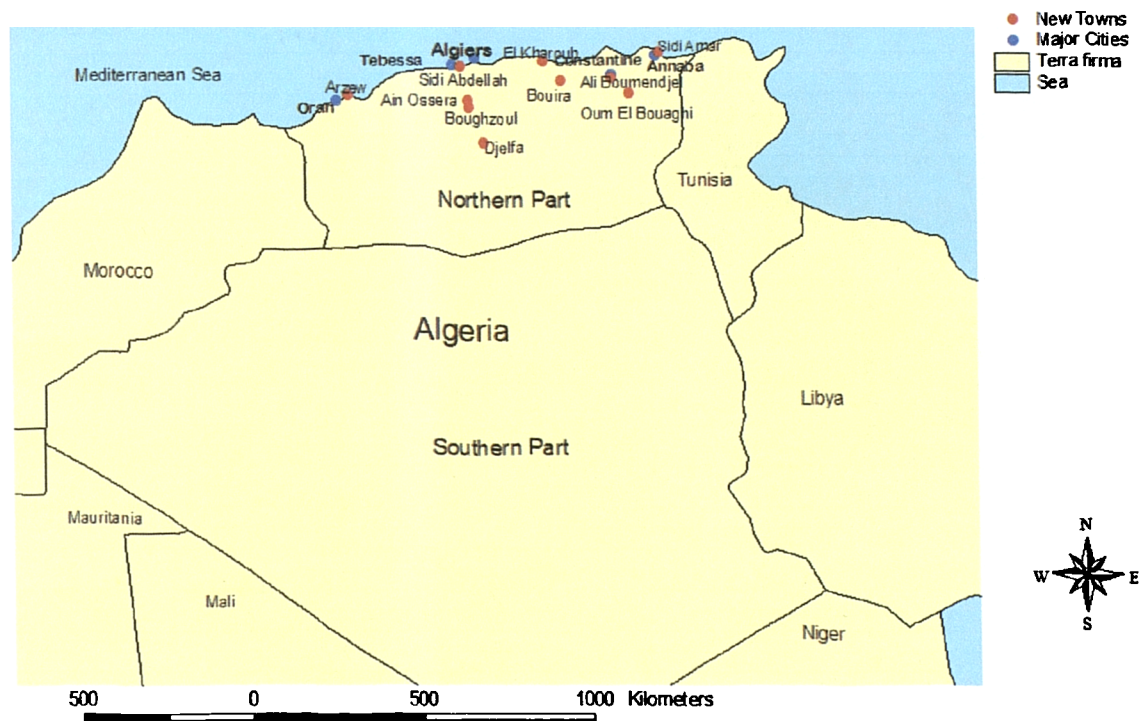


Figure 4.4: Location of New Towns in Algeria.

Source: By Researcher based on Information from ESRI and GIS techniques; Al-Nuaim, 1996 b.

Consequently, the planning of new towns began during 1970-1973. In this first 'Four-Years plan' the government was concerned about decentralisation and regional development, and towards building new towns near locations of new industrial

factories and energy resources. Consequently a new town called 'Sidi Amar' was suggested to be built for a targeted population of 75,000. This suggested towns was to serve steelworks near Annaba city, in the north-east of the country. At that time the government was also planning to build 1,000 villages in the northern part of the nation. These villages were to be built as housing for farmers so as to encourage agriculture. But because the trends at that time were towards industrialisation, the idea of new towns built near factories was more acceptable and, thereby, other new towns appeared, such as El-Khroub near Constantine, Arzew near Oran, and Bouira near Algiers. Later and through the second 'Four-Years plan 1974-77' the number of new towns increased to 16 to be built in order to accommodate population growth and get an equal use of resources throughout the country (Tlemçani, 1986). Actually, Algeria's policies before 1974 were concerned with industry and energy resources (oil and gas), whereas, the policies after 1974 were more concerned with social needs, decentralisation and deconcentration.

4.2.2 Algerian New Towns' Managing and Financing System

The management structure of new towns in Algeria is similar, to some extent, to the French new towns, where the central government has the main role to play in the management and finance of new towns. After Algerian new towns were determined in the second 'Four-Years 1974-1977' master plan, the SEP (State Secretary for Planning) was assisted in 1975 by a specialized institution called the Ministerial Committee for National and Regional Development. That institution was in charge of the locations of big projects in the whole country. In 1979, the SEP was converted to the Ministry of Planning and Regional Development. The Ministry of Housing and Construction was

also converted to the Ministry of Town Planning, Construction, and Housing. This latter Ministry taken the responsibility of planning new towns.

In 1991 the Ministry established the AADL (The National Agency for Amelioration and Development of Housing). The AADL took the responsibility for managing and promoting real estate operations directed to housing, land, development programmes and works entrusted by the Ministry, particularly projects of new towns. The AADL works under the supervision of the central government. Although the government had used national bodies for the construction of these new town, it depended on foreign consultants (French particularly) and also on standards of design from the British new towns in preparing the master plans of these towns (Ministry of TP.C.H, 2001).

The central government had controlled the whole process and the local authority role was neglected. In order to help new towns in Algeria to grow fast, the government had applied tax exemptions policy in some towns and so development investors were exempt from all taxes for 10 years. In addition as a further encouraging policy, the government raised the salaries in government institutions of those towns (PMC, 2002, p.3). The government retained in its hand not only the management of these towns but also their finance. Most of the new towns' facilities, if not all, in Algeria, were financed and controlled by the public sector and dominated by state investment. Even with regard to the industries, only a few projects were financed by the private sector, under a tight control of the central government.

The government was to lend funds for construction of homes and small factories, as loans to individuals or even to small-scale developers. These funds were secured by

mortgages, without interest. The money was to be borrowed from the national banks and also from international agencies such as World Bank (Christie, 1984, p. 90). The private sector role in financing seemed to be ignored by the government, but later, in the 1990s, there was a new policy of involving the private sector in financing these towns. The private sector was also given the freedom to buy, build and sell developed constructions. The government also simplified urban development procedures for private investors, as Mohammad Rahimia (general manager in Housing Ministry) pointed out:

“We do not have the resources to satisfy demand, so our new strategy is to attract the interest of foreign as well as local partners”.

(PMC, 2002,p.2)

Thus, although the Algerian government had a good start in constructing its new towns but because the number was big for one body to fund, it couldn't complete the whole number of new towns suggested (it had built nearly 10 of the 16 determined new towns).

4.2.3 Algerian New Towns' Characteristics

New towns in Algeria were suggested to be built near productive sites of development in the region of the high plateau that is situated between the Northern and Southern regions. Most of these new towns were of medium to small size of population 40,000-250,000 and this size was actually determined by geographical factors in Algeria (Atlas Mountains). Basically, there were determined factors for choosing a new town site location:

- Near energy resources;
- Previously occupied areas are preferred than virgin ones;

-
- The site is already connected to transport network, especially rail lines penetrating major cities;
 - Geographical factors are to be put into account, e.g. away from mountains and fertile lands; and
 - Towards the semi-desert area as a step to activate the southern part of the country (Algiers Town Council, 1993, p.391).

Algerian new towns were planned to stop migration from poor environments, particularly, from desert areas to existing major cities (that were very large in comparison to other towns in the country). This would be by eliminating through new towns regional population disparities throughout the country. Therefore, most of the new towns included government institutions and a university centre as well as housing, commercial, and public services, and hence were considered as provincial capitals (Hamaizia, 1989, p.78). Many new towns began their development process in Algeria and are in progress, such as Boughzoul, El-Khroub, Arzew, Bouira, Ain Oussera, Om El-Bouaghi, Sidi Amar, Djelfa, Ali Boumendjel, Batna and Sidi Abdella. The following three examples of these towns will be studied to explore characteristics of Algerian new towns.

Boughzoul New Town

One example of these towns is Boughzoul, planned to accommodate 100,000 residents by the year 2000. It is located 170 km south of Algiers city, in the centre of the northern region of the country, at the crossroads of the two important National Highways: the Algiers/Laghouat North-South axis and the Mi-Sila/Tiaret East-West

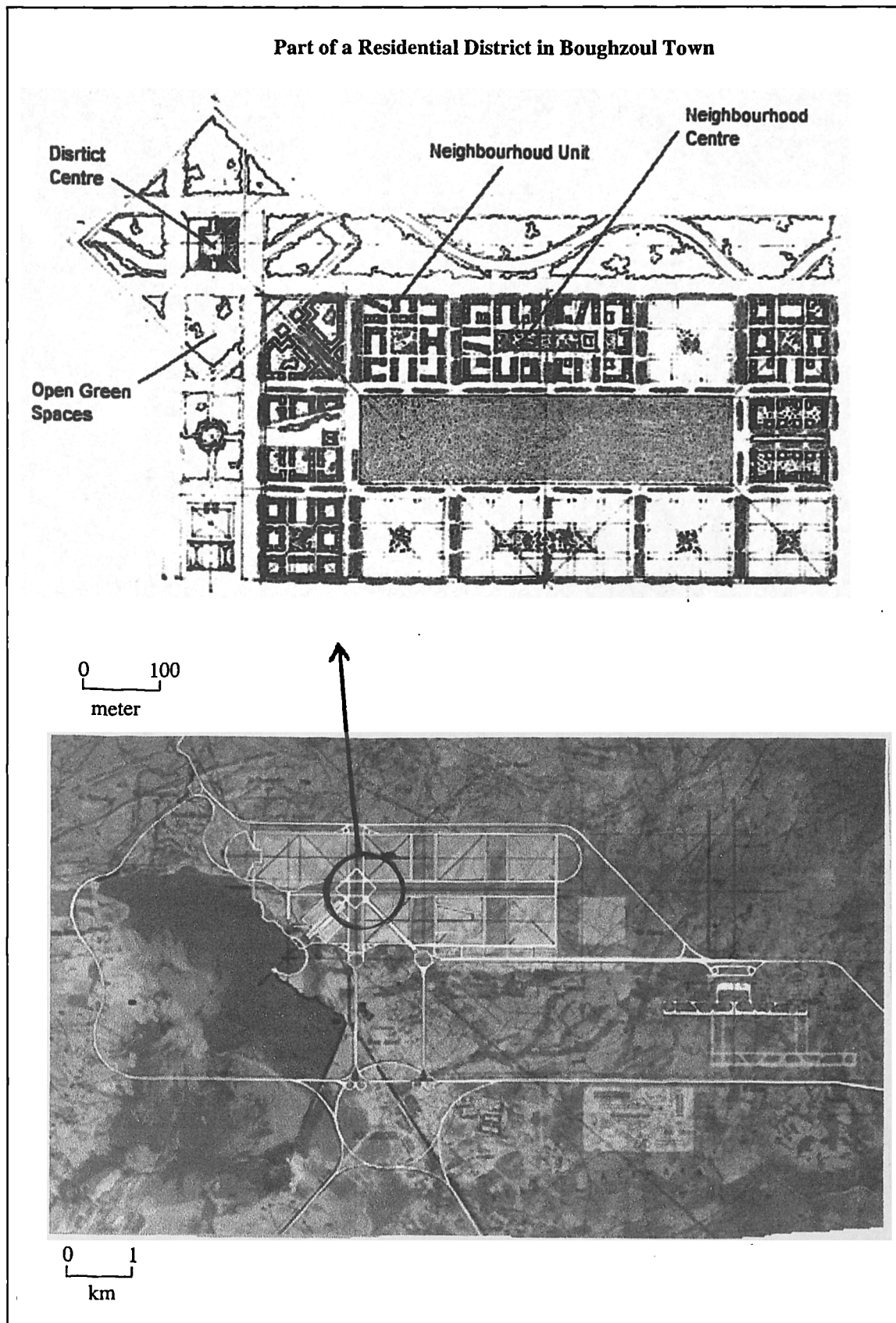


Figure 4.5: Plan of Boughzoul New Town.

Source: Bofill, 1999.

axis. The total area of the town is 1450 ha. The town is built on a virgin site, which is unusual in Algeria new towns. However, a railway line extending from east to west was under construction, even before construction began on the town. The town includes an industrial area, the main town centre, a university centre, and a residential area. The master plan was produced in 1985 and the design of the town is a mixture of grid system of road networks and neighbourhood unit. The time-scale for the town is 15 years, to be built in stages. The first stage to be completed in 1990, accommodating 25,000 residents. The second stage by 1995, accommodating 56,000. The third stage in 2000, to accommodate the full number of 100,000 residents. The town was also prepared to provide 25,000 job-opportunities in different activities, mainly administration and industry (Algiers T.C., 1993, p.391-393). The Government is thinking of expanding the town area to 2200 ha in the future (Bofill, 1999).

Oum El Bouaghi New Town

Another example of Algerian new towns is Oum El Bouaghi town which is 84 km from Constantine. It is built in the high plateau region, in the north-east of the country, in the middle of four important regions: Constantine, Belva, Tebessa, and Guelma. The town lies on the National Route, which links the eastern regional metropolis of Constantine with the neighbouring capital city of Tunis. Further, the town is well connected to the rail network that runs between Ain Mi-Lila and Tebessa cities. This railway line passes through the town on the southern side and is also connected to the Algeria/Constantine line and the Tebessa/Annaba line. In addition, there is an airport in Constantine that serves the town as well. However, it depends, to a high extent, on transport companies existing in Constantine city that serve the town daily.

The town was previously occupied by 22,890 residents in 1966, and was named Canrobert during the French occupation, and played an administrative role at that time. The first draft of the master plan was produced in 1980. It is planned for a population size of 80,000 inhabitants and in the master plan it is suggested to grow in stages. The first stage in 1985 is to accommodate 50,424 and in 1990 to accommodate 65,204 and finally to reach 80,000 in 1995. The town has a total area of 1117 ha. It contains residential areas, semi-industrial activities, agricultural areas, a university centre, an administrative centre and main town centre. Industry is located in the north-east of the town (Hamaizia, 1989, p.94-132).

Ain Oussera New Town

The third example is Ain Oussera new town built. It was built for 150,000 inhabitants and is considered as an industrial town. Previously, in 1977, it was occupied by 24,029 residents. It was chosen as a suitable location for a new medium-size settlement, located 142 km south of Algiers and 28km north of Boughzoul new town, at the junction of both Transaharian North-South National road and the New East-West planned motor road and railway lines. Due to geographical reasons, infrastructure networks (water supply, sewerage, electricity and telephone lines) were provided even before the master plan of the town was produced. These networks were arranged according to the soil contour lines and were used as a guideline for the new town design. The total area of the town is 2170 ha (21,70 km²). It includes residential area, industrial area, and urban core for public and commercial services. Industrial developments form 17% of its area. The town was prepared to provide 10,000 new job-opportunities in manufacturing jobs but, in reality, it had exceeded this number and has provided about 40,000 job-opportunities in industry, in addition to opportunities in

other different sectors. Standards of area in Ain Oussera town were taken from Milton Keynes British new town (Sbandi, Amadeo and Rihosek, 1982, p.2-8).

4.2.4 Conclusion

It is clear that Algeria has shared similar problems with most developing and developed countries of excessive population growth and concentration in major cities that followed the industrialisation period in the country. Algeria had nearly the same aims behind building new towns. In Algeria, the policy for the management and finance of these new towns was more similar to French new towns policy. This is probably due to the fact that Algeria was influenced by the French occupation more than most other countries that were occupied by France in the past, even after its independence. However, there were some different points in planning principles between the French and the Algerian experiences, such as the size of the town that was planned to be medium to big size in France from 250,000 to 500,000 inhabitants, whereas it was small to medium size in Algeria, from 40,000 to 200,000 which seems more realistic as the French towns didn't reach their expected number of population. Also, the number of new towns suggested in the French experience was 9 towns and all of them were built but, they were 16 in Algeria and only 10 of them had started development and are not totally completed till now. The government in Algeria recently realised that financing a big number of new towns is a very complex operation and needs more than one body to perform it. Consequently it had started encouraging the private sector to share in the development process of these towns.

Some positive points in the Algerian planning strategy of new towns can be highlighted. One point is that most of the towns were not chosen on virgin lands but on

previously occupied ones, having even a small nucleus for human existence. In addition they were neither spread in the desert nor built on fertile lands, but on a semi-desert area with low value of land for agriculture and at the same time, in the regions of major cities. Although the distance of most of the new towns from 'mother' cities was a bit far, between 65-200 km, the good transport connections provided to those towns were sometimes provided even before designing them. This had reduced the problem of isolation and the far away feeling that new residents could feel, especially with the existence of a good railway network, which connects these towns to major cities. The railway network was considered as a main principle in choosing a new town location, and that encouraged people to move to these towns even before it is totally completed. In addition, the location of most of new towns was near energy resources and industrial developments built in these towns, which had secured the provision of job-opportunities, the most active factor in attracting population. Besides that, the university centres that most of new towns included also played an attractive factor in the new towns' life.

However, although the problem of excessive population growth in Algiers, the capital, is not aggravated to the same extent as in other capitals such as London, Paris, and Cairo (as will be explored in Egypt in the following chapters) where it was unbelievable that they kept growing without a fast and urgent solution to the huge concentration and congestion in these capitals. In Algeria they had thought of controlling and overcoming this problem before it arose and worsened. Basically, the fact that even the government couldn't build the whole number of towns suggested and those projects which had already started but not yet completed, in fact, quite a high number of people had begun moving to these towns, especially the early built towns,

such as Boughzoul, (Algiers Town Council, 1993, p. 394). So, it can be said that the Algerian experiment had useful lessons, particularly in the principles of the new towns planning process.

4.3 Other Developing Countries Experiences of New Towns

Many other new towns were built in different countries in the Eastern World with a variety of aims. Some were constructed for re-habitation and reconstruction, as in Turkey, Lebanon and Morocco. Others were mainly built for absorbing metropolitan expansion and pressure of growth and congestion in major cities, such as in Egypt and in Syria. Still others were built for industrial reasons, such as in Qatar. For instance, in Morocco a new town called Agadir was rebuilt after it was destroyed completely by the 1960 earthquake. The town was considered as the main western seaport on the Atlantic Ocean. Hence, the government thought of designing the area as a future tourist resort and completed rebuilding the city according to modern specifications for this purpose (UNCHS, 2001a).

In Syria it was the problem of population concentration and pressure, in addition to shortage of dwellings in the capital, Damascus, that stimulated the government thinking of building two new towns of Dummar and Kudsia on the periphery of Damascus. The purpose was to accommodate the in-migration flow from different areas and cities to the capital city. This in-migration was encouraged by the job-opportunities in Damascus, as well as the educational, commercial, and different public services that the capital includes. A third new town was also built in Syria called Al-Tabaka new town in the eastern part of the country, very near to Raka city and Forat River. It was constructed for the purpose of building a new huge dam on the Forat River. Therefore,

workers in this project were provided with some services encouraging them to work and live in the new town. After nearly 15 years of building these towns, many people moved to Dummar and Kudsia and settled in them, but the residents kept depending on Damascus for work and main government institutions. Whereas, Al-Tabaka town did not succeed as a town for permanent settlement. While the dam works were progressing, the town was occupied by different engineers, workers and their families; and when the dam was completed, all different groups of workers involved in the process left the town to their previous dwellings in major cities (Shammot, 1993, p.235-245).

In Bahrain it was also the problem of population pressure on public services in major cities, such as Al-Manama and the Mahrak that led the government to think of planning two new towns. One was called Essa town and the other was called Hamad town. They were connected to each other and to other main cities by a powerful transport network. This sustained the new towns and played a major role in their quick developing implementation process, and in attracting people to the new towns. In addition, different networks and physical services such as water, electricity, etc, were already extended from nearby cities, as these new towns are located not far away from existing main cities on the western side of Bahrain Island. This location played a positive role in the towns' development process (Al-Kalifa, 1993, p. 165).

In Qatar, a new town was built called Oum-Saeed. It was planned as an industrial town for heavy industry developments but, actually, most of the workers in this town were working in it but living in other cities such as Al Dawha and Al Wakra, instead of staying in the new town, and therefore residents occupying the town were less than

projected. Another thing is that the new town was performed totally by public sector and so the private sector was not allowed to develop in the town (AL-Boainain, 1993, p.181-183).

4.4 General Conclusion

This review shows that countries of oil production such as Qatar, Bahrain and Saudi Arabia had suggested quite few new towns to be built ranging from 1-2 towns, not more. Consequently, there were no delays in completing their development process and they were relatively successful. In addition, each of these countries had powerful economies and consequently the developers of the programmes (whether the government itself or the private sector of the oil industry who shared in the process) had large financial resources with which to complete these projects. Whereas other countries in the eastern world with less powerful economies such as Algeria or Egypt (as will be explored in following chapters) had built some of their new towns for encouraging industry developments and the majority were constructed for overcoming regional imbalance in the country and excessive growth of population in major cities. Therefore, the number of new towns suggested was much bigger. Consequently an unequal equation appears, as countries with powerful economies built fewer new towns, and countries with weaker economies built a higher number of new towns (figure 4.6).

Thus it can be derived that although the number of new towns suggested to be planned has to be decided according to population growth trends, it is also so important that it is decided according to financial resources available in the country, particularly in the public-sector. The new towns programme is considered as a national planning project

and so the government has to hold the largest share of money among the different bodies sharing in the process, in order to keep and reserve its role and control on the whole process.

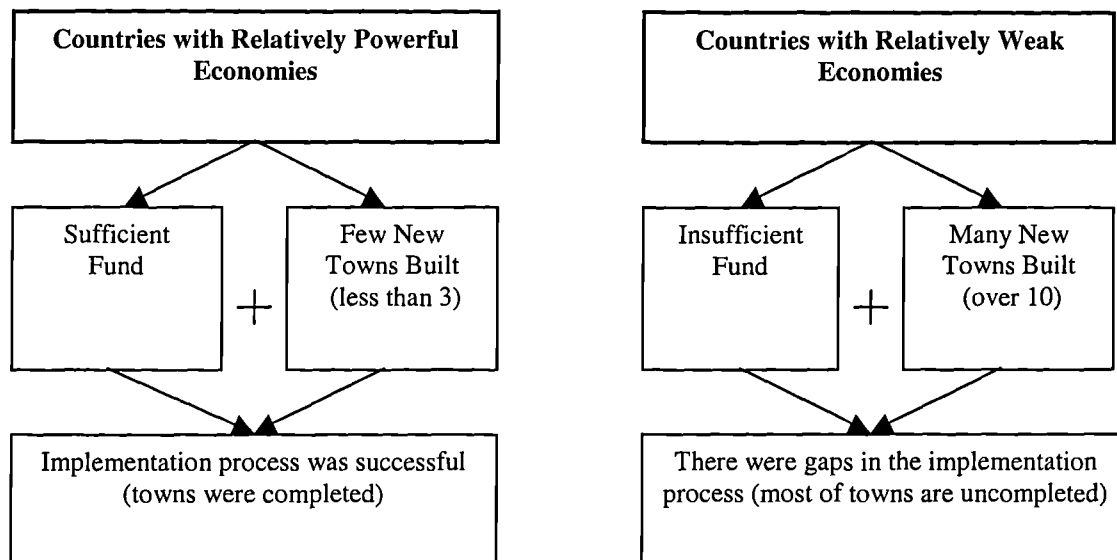


Figure 4.6: Comparison of New Towns Programme in Developing Countries of Different Economical Level.

Source: By Researcher depending on Research information.

Also, this chapter showed that the master plans and the site-locations of new towns in Saudi Arabia and also in Algeria were prepared not by local planning institutions but mainly by international companies related to Britain, France and USA, and consequently influenced, to a high extent, by their principles in planning. This however was a positive sector as countries such as Britain and France had already experienced the phenomena and have experts in new towns projects, whether these towns are built for industrial purposes or for residential reasons. Their positive involvement appeared in the principles of the planning process that they determined in master plans, such as the site selection on active regional networks, providing easy and good connection between these towns and major cities. These connections would be provided even

before starting developing the town, beside their concerns about establishing permanent places of job-opportunities, public and commercial centres, in addition to University centres and other attractive points that would encourage people moving to and settling in the new towns.

But the main difference between the two examples studied in detail, from the area of Middle East and North Africa (Saudi Arabia and Algeria), is in the management policy controller and the time determined by the government for the involvement of private sector in the developing process. Saudi Arabia, in spite of its powerful economy in the 1970s, had involved the private sector in the programme, from the beginning, whereas Algeria had decided recently to allow the private sector to share and was obliged somehow to do so, in order to complete its planned new towns. Therefore, public and private sectors are preferred to work together from the beginning, even if the public sector has the ability to complete a big project alone. In this case the public sector could reserve national funds for more important stages in the process, particularly in last developing stages, and also when sudden changing decisions are undertaken and the circumstances of private developers enable them to complete what they took on their account to construct. Besides, most probably and after a few years of starting a new town development process, it may be discovered that the town needs substantial support to reactivate it.

The following chapter is about Egypt, the main field study for the research, exploring the problem of population excessive growth and, as a consequence, the emergence of urban growth polices and new towns programme generally, before studying the case studies in details.

Chapter 5:

The Experience of Egypt (Field Study)

5.0 Introduction

This chapter introduces the selected research field study, that is Egypt, giving a background about its political, economic, and demographic issues, providing a sufficient understanding of the atmosphere from which the Greater Cairo region's urban problems were created and, as a consequence, the new towns programme was suggested. Egypt occupies an important situation within the Mediterranean cities and Arab countries, due to its population size and strategic location as well as history, Egypt has the highest urban density among them. In the past, according to the 1846 census, the population had attained 4.4 million inhabitants, of that Cairo (the capital) reached 250,000 inhabitants (Abd-Al Latiff, 1998, p.13). Later in 1947 Egypt started to be characterized by massive and continuing rural-to-urban migration, that is largely a Post-World War II phenomena stimulated by industrialization programmes and different attractive factors in major cities (Yousry and Aboul Atta, 1997, p.111), in addition to a centralized distribution of population dominated by the Nile Valley and Delta.

Since that time, Egypt started suffering from the problem of excessive population growth, especially in Cairo, and from the overall imbalance in population distribution throughout the country, as well as from the disparity between the very high density of Egypt's populated areas and its vast uninhabited areas. It has been recorded that 97% of Egypt's population is concentrated in the Delta region and the Nile Valley, which constitute only 4% of Egypt's land area. Egypt is expected to reach 84 million inhabitants in 2017, which will increase the problem, particularly in Greater Cairo, containing nearly 21% of the country's total population (M.H.U.NUC, 1993, p.7).

5.1 Background about Egypt

Egypt is a very ancient country that witnessed different historical and political periods starting with the pharonic state to being under the Roman and Byzantine rule and then under Islamic Kilafa and afterward, the Turkish occupation. Later, there were two western occupations in Egypt, one of which is the French occupation between 1798-1801 and the other was the British occupation between 1882-1914. Yet it wasn't until 1922 that it became formally independent, but with a continued presence of British power in Egypt during the period 1922-1952. Egyptian politics at that time was described as a triangle struggle for power among the Wafd organization (the public), the King, and the British. The country itself had experienced growing economic problems between 1920s-1950s (Abd- Al Maksood, 1987, p.3).

5.1.1 Liberal Government and Economic Politics in Egypt

The real and complete independence of Egypt was not achieved until the revolution had burst in 1953 and Jamal Abd Al-Nasser became the president of Egypt. At that time agriculture accounted for nearly two-third of gross Egyptian domestic product. Beside that, the president had encouraged the expansion of industry and various other projects to foster a greater degree of industrialization. As a result, Egypt had attracted many people to move to major cities, to work and live, where these enterprises were constructed. Transferring to major cities was also encouraged by the president policy of providing better educational opportunities in cities, better health services, and a more modernized economy, particularly in the capital Cairo. Nasser period was described by a wider range of dependence on national domestic products and reduction of international imports and restricted rules towards the private sector, in order to give the

main role to the public sector, in development projects and government enterprises control (Jankowski, 2000, p. 120-129).

Later in 1970 Anwar Al-Sadat became the president and his most sweeping shift away from the Nasser rule period came in foreign policy form (open-policy) and relaxed regulations, which opened the door for the private sector to take the opportunity and share in the public sector developments. Besides expanding the role of the private sector, Sadat policy had drawn some foreign capital to invest in the country. In 1981 Husni Mubarak became the president, and he is still at present. Mubarak policy towards increasing the role of private sector in national projects has consequently resulted in privatization, reducing the size of the inefficient public sector through leasing or sale of government-owned enterprises. Egyptian economy had become gradually privatised in the 1990s. However, recent estimates showed that agriculture accounts for nearly one-sixth of GDP, industry of one-third, whereas services account for fully half of national output in financial terms (Abd-Al Latiff, 1998, p.3).

5.1.2 Demography and Topography in Egypt

Egypt's population has recently reached 67.8 million inhabitants (Jamaal Aldeen, 2002), of whom nearly 14 million are in Greater Cairo. This means a great urban problem, particularly in the capital, if this excessive growth was not diverted towards other areas in the country. The problem is obvious in the internal parts of the capital where the vast districts of residence are of bad quality, illegal occupation of many building roofs in these areas, the insufficiency of the infrastructure and services, the problem of transport congestion, and the high percentage of pollution. The total area of

Egypt is 1,001,450 km², which is a huge area that could satisfy its population if distributed in a balanced way instead of concentrating in one specific region.

The country is divided to 26 Governorates with different population densities. The Government had always tried to reshape this imbalanced distribution of population on its different areas of different economic resources instead of the current concentration. Actually the location of most of the population had divided Egypt into high populated areas and very low populated or remote areas (figure 5.1) as the following:

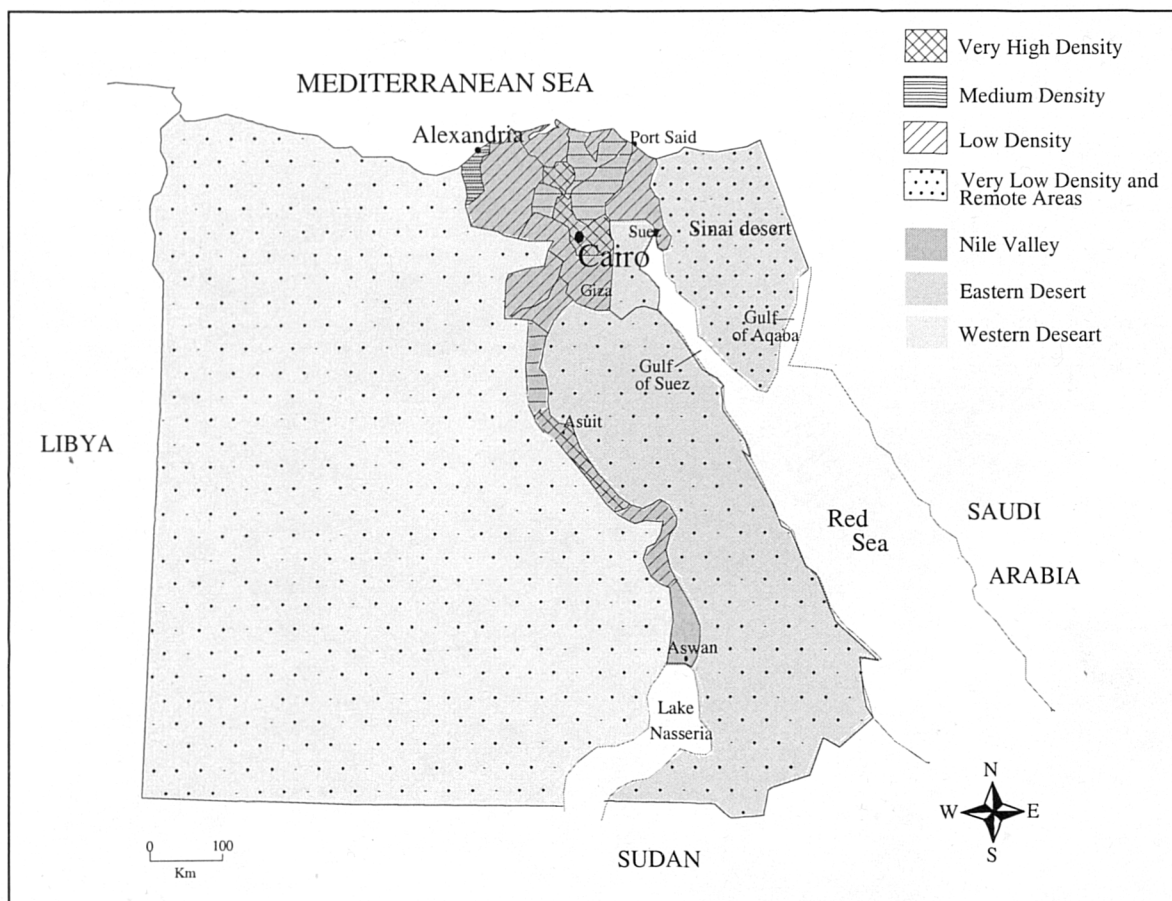


Figure 5.1: Population Density in Different Areas in Egypt.

Source: Based on Military Survey Administration, 2001, p.194 & p.216.

High Populated Areas: These areas are located mainly on the Nile Valley and Delta Region, divided into three categories according to level of density:

1.The first Category is of a high density (1500 p/km² and above). It includes Cairo that has the highest density of population in the country (15,218 p/km²), in addition to Qalyubia, Sohag, Asuit, and Gharbia governorates.

2.The second category is of medium density between (1000-1500 p/km²). It includes five governorates: Menya, Monofiya, Dakahilya, Sharkia and Alexandria.

3.The third category is of low density (100-1000 p/km²). It includes: Giza, Damietta, Kafr- El Sheikh, Beheira, Fayoum, Port Said, Qena, Beni-Suef and Ismailia.

Very Low Populated and Remote areas: These areas are of good economic resources but are mostly neglected and not invested. Density in these areas is below 50 p/km², such as the Dam Lake Area, located south of Aswan city, and its economic resources are agriculture and tourism. The North west Coast, its economic resources are petrochemical industries. The Sinai area includes North Sinai and South Sinai; the government is trying to reclaim its land for agriculture. The Red Sea Coast, and its economic base is tourism and the port trade, in addition to many oil companies existing in it. Finally the New Valley, which depends on agricultural activities and food industries (Military Survey Administration, 2001, p.193-195).

Thus, it is obvious that inhabitants are tied to the Nile Valley and Delta regions, especially the area around Cairo, whereas other areas have low densities, and the rest of the country is nearly empty. According topography, Egypt is divided into four main regions. The first one is the Nile Valley and delta region where most of major cities are located. This area is of fertile agricultural land and extends from the north to south along part of the Nile River in Egypt. The second region is called the Western Desert that contains low plains and some high ones and is bounded by the Nile Valley from the

east and Libyan boundary from the west. The third region is the Eastern Desert that is of low plains and few mountains of low heights. This region is bounded by Suez channel from the east and Nile Valley from the west. The fourth is the Sinai region, a semi-desert area in the north-eastern part of the country (Military Survey Administration, 2001, p. 185-186). Egypt has some geological faults in the ground spread in different areas and two main lines are of earthquakes activity; one of these lines runs from the Red sea to Suez Gulf to Cairo, the other line extends from the Mediterranean on the eastern side of the country to Cairo to Jelf hill area in the western-south of Egypt. This is besides the area of south Aswan and the area near the entrance of Suez Gulf that are of earthquake probability (NUCA, 1998, p.97).

5.2 The Greater Cairo Region (GCR)

Cairo, the capital, is an ancient city occupying a site that has been continuously inhabited for more than 3,500 years. In the 1846 census, Cairo's population was 250,000 inhabitants. It kept growing at a balanced rate as it's population had ranged from 100,000 to 500,000 inhabitants since old time until the twentieth century when Cairo became one of the world's largest cities (Muselahi, 1988, p.11). In 1937 the population reached 1 million and continued growing very fast. Its importance is derived from its role as a centre for the production and export of textiles and sugar, also for goods manufactured from cotton in addition to its sensitive location at the Delta angle, that is in the northern part of Egypt. Cairo has been considered since that time as Egypt's administrative and commercial center. It became the most populous city in Africa and the Arab World (figure 5.2).

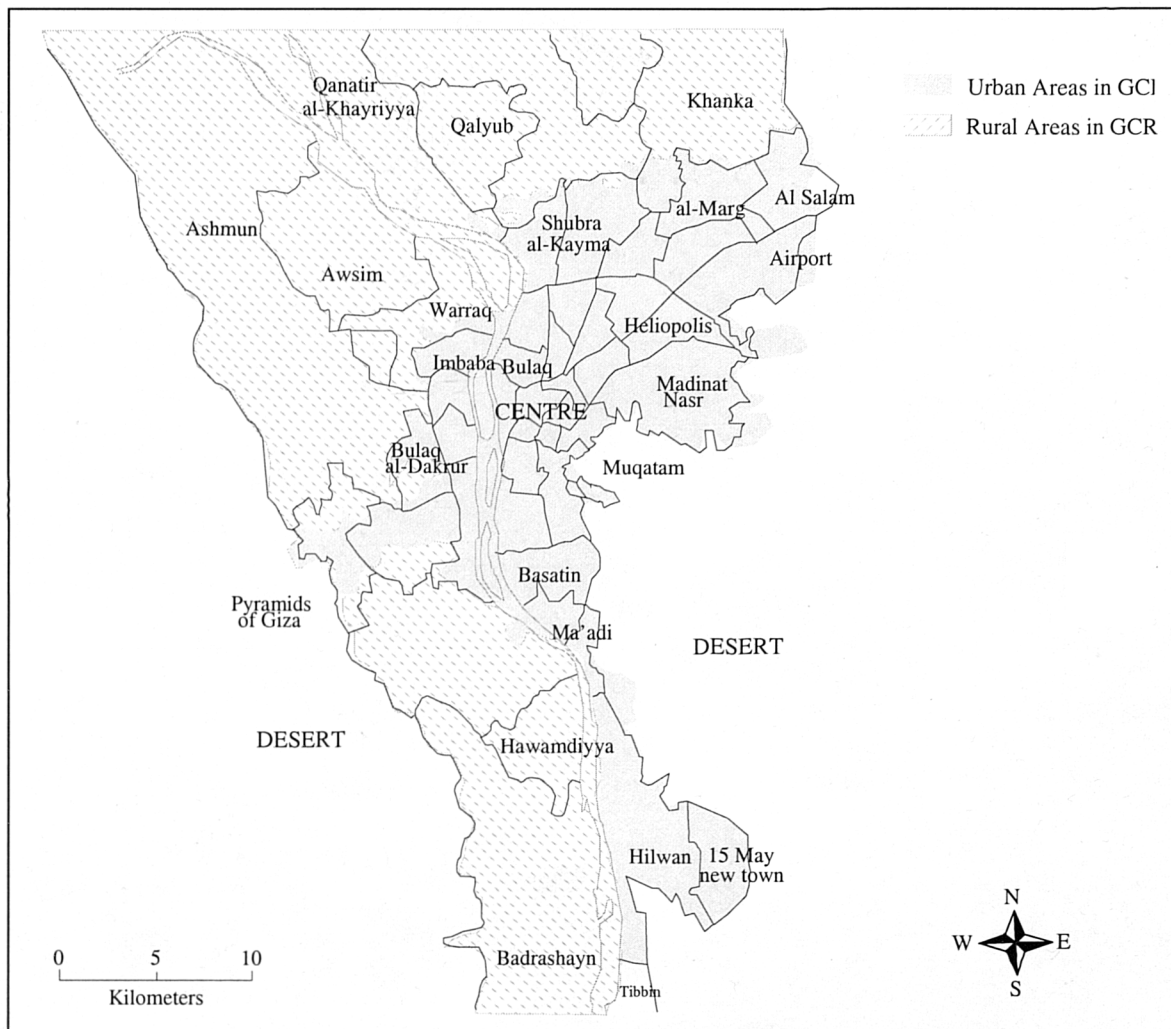


Figure 5.2: Greater Cairo Region.

Source: Bayat and Denis, 2000, p. 186.

5.2.1 Stages of Cairo's Urban Growth

The expansion of the urban agglomeration in GCR went through several stages in different periods. The first one is the period until 1917, there were the creation of the new suburbs, like Al-Ma'adi in the South and Misr al-Gadida in the north-east of Cairo, and also the construction of Bridges that link the eastern bank to the western bank of the river Nile River for the first time. These bridges had helped to start the urbanization in the western side where the governorate of Giza is located (Muselahi, 1988, p.36). Later and between 1917 and 1950, there was the expansion in the southwest axis that

represented 15% of the total growth in this period and had covered mainly Doqqi and Giza. In 1937 the Government attempted creating a big residential area named Al-Fuadiyya built on a big area of agricultural lands, without looking forward, this had encourage the sprawl of more developments on the fertile agricultural lands. However, the project was postponed until the year 1946 because of the World War II. During this period urban growth in the northern and the north-eastern axis had represented 67,4% of the total expansion as a result of the creation of new suburbs; whereas, the southern and eastern axis had expanded towards Hilwan, Al-Ma'adi and old Cairo represented 8% of the total expansion in the region at that time.

After that, between 1950 and 1986, it was a period of political and ideological changes in the Government, which had an effect on shaping the urban growth of the region. In this period industrial developments were encouraged in Egypt, especially in Cairo. These industries were distributed all over the Cairo region, particularly, in the south in Hilwan and in the north in Shubra al-Khayma. Further, there was an expansion in establishing public housing projects in the zones of Ain al-Sira and Shubra al Khayma, etc. In addition this period had witnessed the beginning of the Urban Growth of the suburbs of Madinat Nasr and Moqqattam in the east. However, growth of the two suburbs had been delayed until the eightieth. Basically, during 1952-1986 informal urban expansion on the fertile agricultural lands, adjacent to the region, had increased especially in the western side of the region. Therefore, in the 1980s trends were directed to condense and fill the internal gaps, instead of expanding horizontally on the agricultural lands. This was assisted with a law issued in 1982 preventing the expansion of urban growth on agricultural lands (M.H.U.NUC, 1991, p.13-22).

Thus, urban growth in the region was significantly limited, and was centralized in the areas located within the western arch of the Ring Road (figure 5.4), that part of it was developed at that time. This is in addition to the 1992 earthquake that had affected Cairo, significantly the inner city's overcrowded and ill-housed inhabitants. Consequently, the housing sector had witnessed an explosion from the centre towards the edges and new settlements, the rate of residential units constructed in the centre had dropped and the growth was negative with a decrease reaching 6200 housing unit (Sutton and Fahmi, 2001, p.140). From that time till now urban growth and development were encouraged and directed towards the new urban communities in the desert lands, as 17 of them had started their development stages and some started absorbing people from Greater Cairo and other major cities, but actually not to the extent expected. However at least it has affected the informal expansion phenomena, although they continued to grow but with decreasing values, their rate had decreased from 5.8% between 1976-1986 to 2% between 1986-1996 (M.H.U.NUC, 2000a, p.47).

5.2.3 The Problem of Excessive Population Growth in GCR

Cairo's development had been most intense since World War II. This had resulted in a variety of problems. From that time the city's population has been growing at the rate of 300,000 people per year (figure 5.3) and had strained urban services to the breaking point as well as public transportation and infrastructure facilities. Housing was perhaps the most pressing problem as Cairo's population had doubled from 2.06 million inhabitants in 1947 to 5.07 million in 1976 and doubled again to 9.48 in 1996 (CAPMAS, 1996a). It was estimated that 21% of the total Egyptian population were living in Greater Cairo. In addition to natural increase there was the migration from surrounding areas to Cairo, as rural areas in Egypt suffered from a very high degree of

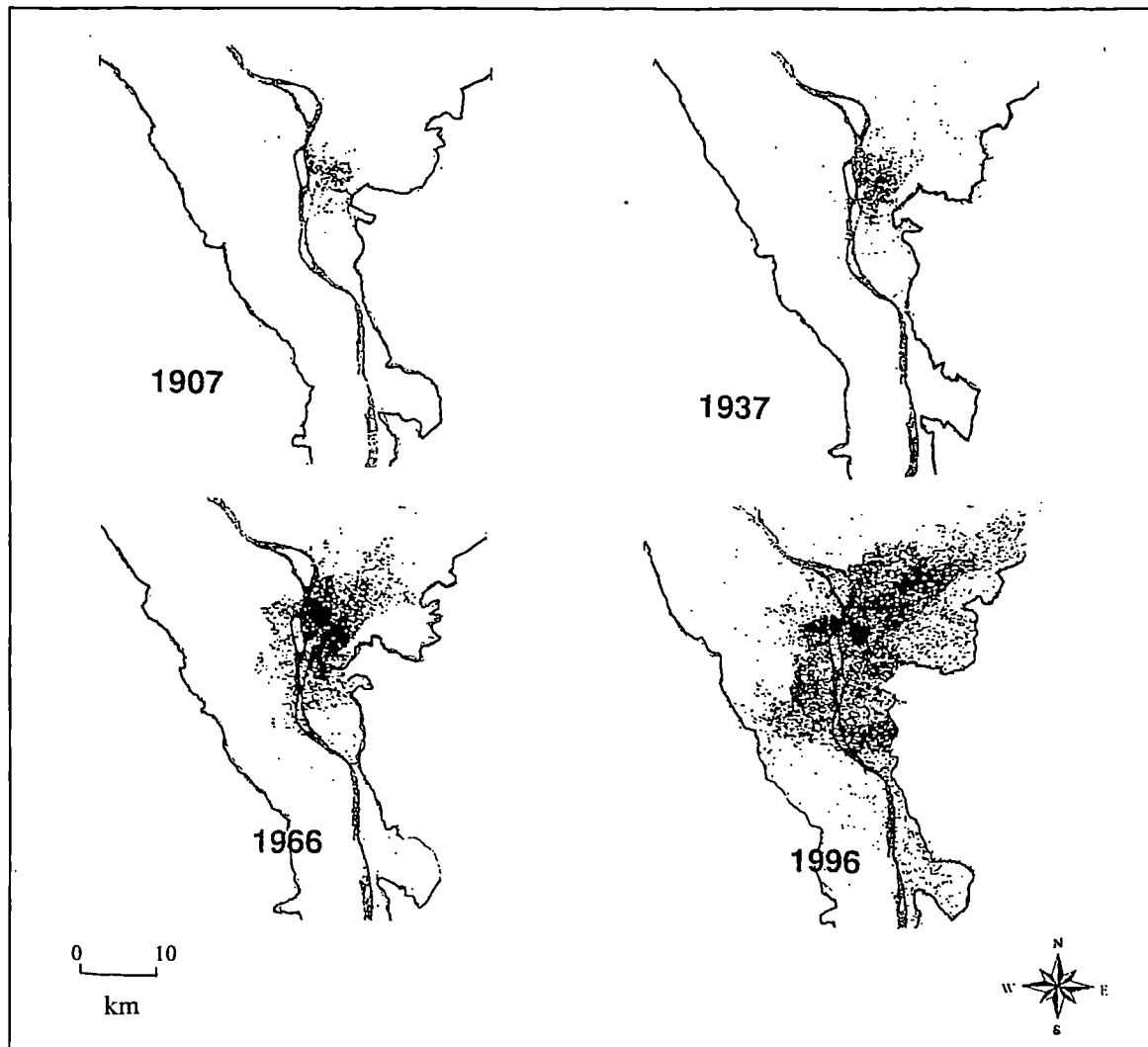


Figure 5.3: Population Increase in GCR during 1907-1996 (1 dot = 1000 inhabitants).

Source: M.H.U.NUC, 2000a, p.41.

unemployment and large numbers of peasants migrated to the cities every year, particularly to Cairo, searching for work. This uncontrolled migration of unskilled peasants, which lacked the minimum requirements for urban life, created many problems in the city as a result of the high residential density caused by this migration. The number of inhabitants in Cairo was growing at high rates, together with the need of dwellings and workplaces, had reflected the appearance of a strong trend towards informal expansion horizontally and vertically in the region with all consequences of

administrative problems and the insufficiency and inadequacy of the social, health and educational services (Abou-Zeid, 1979, p.283).

The urban agglomeration of Cairo is considered as one of the largest populated human settlements in the world. In 1996, Cairo was number 17 of the largest cities regarding population size (Elgendy, 2004). Therefore, voices and warnings started rising against this steady population increase in Greater Cairo, which had become an attractive centre to inhabitants from all places in the country. It is a vibrant centre of creativity, diversity and activity. Cairo is totally dominating in the Egyptian economical life. It is the chief commercial and industrial centre of Egypt. Local industries in it manufacture cotton textile, food supplies, motor vehicles, aircrafts, and chemical fertilizers. About 38% of public investments, 43% of food consumption, 40% of all industrial workplaces and 58% of all employees working in different sectors in Egypt are concentrated in Greater Cairo (CAPMAS, 1996a).

Cairo is also a centre for government activities, educational institutions and service industries at all levels, which serve the whole country. Decision makers, government ministries, central offices for all Egyptian organizations, major investors, and elite groups that possess economic and political power are concentrated in Cairo (Yousry and Aboul Atta, 1997, p.112). Five universities are built in Cairo, which attracted students from the rural governorates who came to study in the capital city and then settled in it for work. Further, Cairo has a long history of continuous occupation and development of cultural activities, it is a living museum having theatres and studios that offer the Arab World with its first contact with modern performing arts. The Nile River as well is an attractive point for Egyptians, as traditions ties them to it. All these factors are

creating a magnetic attractive power to Cairo. Most of transportation routes radiate from Cairo, connecting it with other major centres of the country. Transport and communication systems offer many economic opportunities and social advantages (Henderson and Kuncoro, 1996). On the other hand, these attracting factors in Cairo are affecting the environment at the same time. Today, Cairo complains of the danger of pollution. It is incredible to believe how residents are enduring it.

However, Cairo's growth had grown along two main axis: One is the north south axis along the Nile River, where most of the population are concentrated and the informal residential areas are dominating the agricultural fertile lands; the second one is the northeast axis along the Ismailia road, on fertile lands as well; in addition to a small axis to the southwest.

5.2.4 The Three Governorates of GCR

As Cairo started its massive expansion in 1947, some parts of Giza, as well as, Qalyubiya Governorate were added to Cairo forming together, in 1966, the Greater Cairo Region (GCR). Now the area of Greater Cairo region had reached about 1435.69 sq.km, including urban and rural areas, of which Cairo Governorate alone is 311.21 sq.km, Giza Governorate is 750.96 sq.km, and Qalyubia Governorate is 373.51 sq.km. Excluding rural areas, the Greater Cairo region is about 667.54 sq.km (Ministry of H.U.NUC, 2000a, p.44). The population of the region reached 13.144 million in 1996, most of them are living in Cairo about 52%, whereas 32 % are living in Giza, and 15% are living in Qalyubia. Most of the institutions, activities and facilities, at all levels, serving the whole country, are concentrated in GCR, it is the primary industrial area in

the country as well as the administrative centre of the government. It is the centre of public services: health, education, cultural, employment and religious services.

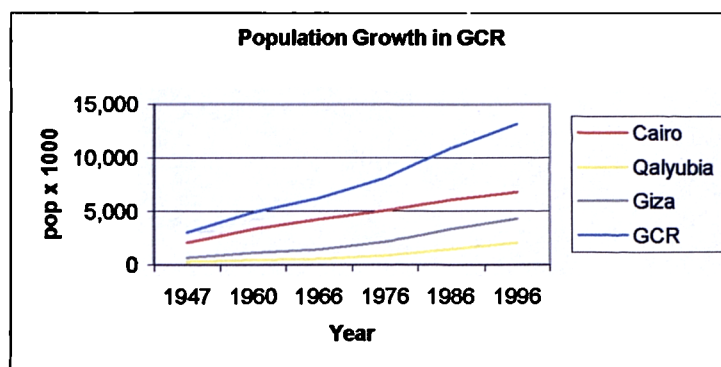


Table 5.1: Population and Annual Growth in Greater Cairo Region.

Source: M.H.U.NUC, 2000a, p.44.

5.2.5 Planning Policies and Master Plans of GCR since the 1950s

As massive growth of Greater Cairo started after the World War II, several attempts appeared to control growth of the region, and thus, three master plans schemes emerged. The first one was presented in 1956, the second one in 1970, and the third one in 1983 which was updated several times in 1991 and in 1997.

In 1952, the Egyptian revolution took place and after that in 1953, the government started to produce the first master plan for the Cairo Region. The plan suggested:

1. The addition of six small industrial towns surrounding Cairo: Qaha and Berkash in the North; Abu-Za'abal to the Northeast; Helwan, Hawamdia and Tebbin to the south.
2. Directing new developments from inner city to the periphery to be sustained by a regional metro surrounding the region.
3. The creation of two suburbs, one over the eastern hills known as Moqatam, and the second is Madinat Nasr to the south of Helipolis district. (Ministry of Housing, 1970,p.18).

But only parts of these suggestions were implemented due to the war of Suez in 1956 which made providing the necessary funds impossible at that time, in addition to the wave of nationalization in the early 1960s which stopped the funds from the private sector.

In 1966, the borders of Greater Cairo Region were drawn and determined for the first time as an integrated planning unit. This was done by the Greater Cairo Planning Commission that was empowered in the year 1965 whose work had been extended from an executive system in Cairo to cover the whole country. It had to define the boundaries of the region and to conduct studies leading to the preparation of the second Master plan produced in 1970, setting up the year 1990 as the end of the planning period for this plan. Cairo kept growing massively and therefore the plan aimed at:

1. Alleviating the pressure on Cairo by limiting the in-migration to Cairo region.
2. Protecting agricultural lands from urban sprawl.
3. Developing vacant land within the region.
4. Protecting environment by increasing open spaces.

5. Dispersing traffic congestion, improving transport networks and the developing the Ring Road with a number of bridges and tunnels.
6. Considering Helwan and Shubra El-Khaima as the two main industrial areas in the region and allowing their expansion until they reach their ultimate capacity and direct any other new industrial base to the desert.
7. Directing urban growth towards new settlements to be planned in the empty desert areas as a way to absorb population increase instead of Greater Cairo Region.

(M.H.U.NUC, 1984, p. 28)

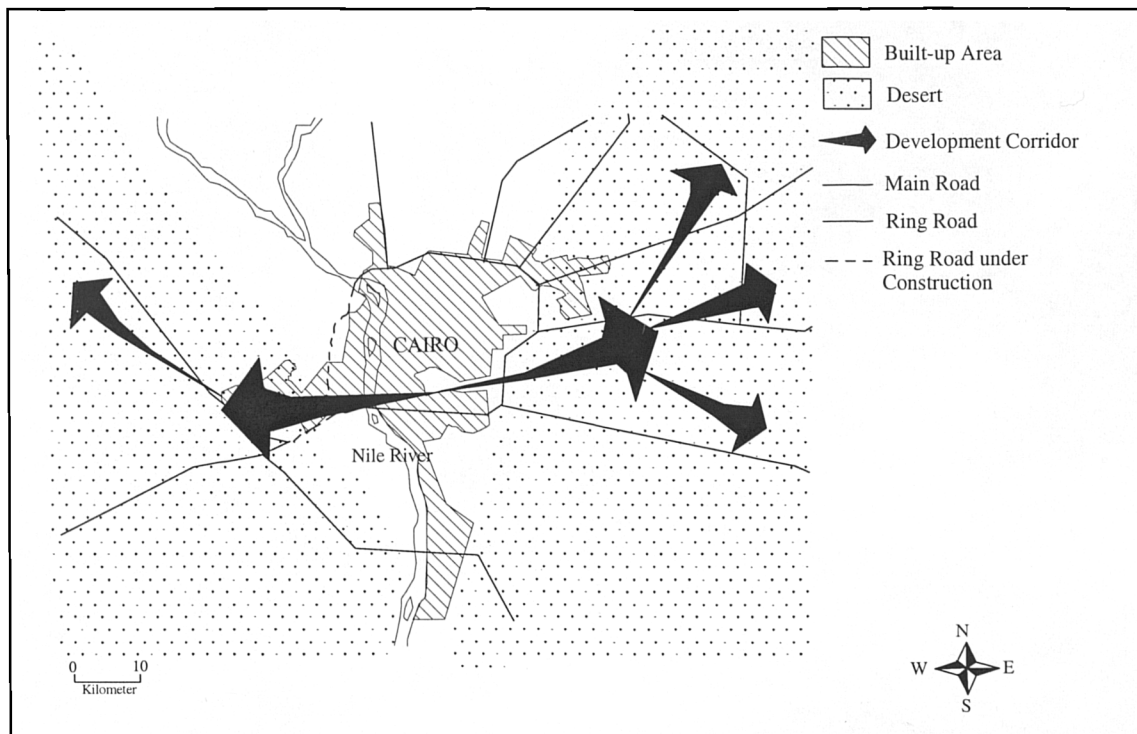


Figure 5.4: Development Corridors Suggested in 1970 and 1983 GCR Master Plans.

Source: Based on Sutton and Fahmi, 2001, p. 137.

The plan had suggested that the estimated population of GCR in 1990, should be distributed as follows: 75% in the existing urban areas in the region, 15% in the hinterlands and rural areas, and 10% in the suggested new settlements in the desert.

Two axis had been determined for the expansion in the desert: the eastern axis on the Suez/Cairo road, and the western axis on the Cairo/Fayoum road. However, the suggestions proposed in the 1970 plan were not implemented because of the war in 1973. After the end of the war the attention of the construction sector was directed to the reconstruction of the Suez Canal cities, which were destroyed during the war (Salah, 1999, p.33). In this period, the government policy aimed at encouraging the private sector and attracting international and Arab investments. A large part of these investments were directed to Cairo and its region, fostering further rapid urban development. Consequently, informal and illegal housing appeared in this period in many areas, in the outskirts of Cairo. It was estimated that more than 4 million people were living in these illegal settlements in the Greater Cairo region (Yousri and Aboul Atta, 1997, p.6).

Actually the political and economic climate never allowed the suggestion of earlier studies to take place, but the government started its work in the wholly destroyed cities on the western side of the Canal. The three cities of Suez, Ismailia and Port Said were rebuilt as new towns. Later and after finishing the reconstruction of these cities, government efforts were directed towards the problem of population overcrowding in Cairo and in the rest of the Nile Valley area. Later, after a few years, the Five-Years Development Plan (1978-82) was produced in 1977. In this plan the government gave more importance to the new towns and their role in the economic and social developments of the country. The Ministry of Housing changed its name to the 'Ministry of Housing, Utilities and New Urban Communities'. Further, in 1979 the government had issued a law considering the 'New Urban Communities Authority' (NUCA) to be the prime responsible for the planning and for the development process

of these new towns. In addition, to enable it to perform its functions in an efficient manner, the Ministry was exempted from many of the routine bureaucratic restrictions, especially in its dealing with local and foreign experts needed for the planning of new towns, as direction of the government at that time was towards 'open door policy' of president Sadat.

The 1978-82 Five-Years National Plan acknowledged government policies adopted in the early seventieth, which called for channeling population growth into new towns in the desert. The plan called for:

1. The development of a number of new towns that could absorb 8 million persons by the year 2000 and a comprehensive scheme to develop them.
2. Allocating 5% of all distributed national investments for the new towns started prior to 1978.
3. From the nature of investments the government expected the private sector to play an important role in the development of the housing and industrial elements of the new towns.
4. Increasing open spaces in the Region.
5. Improving transport network and completing the development of the Ring Road.

(M.H.U.NUC, 1979)

The plan suggested the development of three new towns within the region that should be viewed as a primary step in the plan, and that more new towns are needed in the area surrounding the region to set the area's population at a reasonable level. This was the main aim in the plan. Consequently, two new towns were initiated as a first step in the direction of moving urban developments towards the desert region. The two towns are

'Tenth of Ramadan' and 'Sadat' towns. These two towns are located half way between Cairo and Ismailia, on one hand and Cairo and Alexandria on the other hand. The two sites are suitable for the location of new industries as an economic base. After a couple of years, two more new towns were planned, one called 'Al Ameria El-Jadida', south west of Alexandria, and the other one called 'Fifteenth of May', to the East of the industrial Suburbs of Helwan.

Later, at the end of the Five-Year Plan, a long-range of development scheme for Greater Cairo Region was prepared in 1982 and produced in 1983. It was arranged by the GOPP (General Organization for Physical Planning) that was enriched with local and external expertise to carry out the evolution of the region and to update strategies as well as plans of the urban development in GCR. The main goals of the scheme were based on:

1. Sustaining economic growth and updating, as well as, improving the living environment through protecting and preserving the agricultural lands.
2. Controlling and restricting the unplanned expansion and organizing the urban structure.
3. Improving and increasing the infrastructure efficiency of the region.
4. Protecting the urban heritage, as a main entrance to the cultural and tourist developments.
5. Providing planned locations for housing, especially for the low-income population.
6. Encouraging more developments in the desert land for urban growth and dispersing employment location opportunities in the country (M.H.U.NUC, 1991, p.19).

Basically, the plan had included strategies and recommendations in the target of improving the living environment, emphasizing on the development of new urban communities in the desert lands, as the best way for limiting GCR expansion. It appears that the scheme of 1983 is integration between the previous master plans of 1956 and 1970, with more emphasis on the new towns idea. Five corridors were suggested for the dispersion of Greater Cairo Region population in the country. One is towards the north-east, two parallel to each other, towards the east, whereas the fourth towards the south along the Nile river but to the lower part of it, and the fifth towards the north-west (figure 5.4). Later the plan of 1983 was revised by the GOPP twice, in 1991 and again in 1997 (figure 5.5). The final plan was approved by the governors of the three governorates that form Greater Cairo Region and considered as the final plan to this date, acknowledged at the ministerial level, with the issuance of the Ministry of H.U.NUC's decree No.200/1997 (Ministry of H.U.NUC, 2000b, p.57).

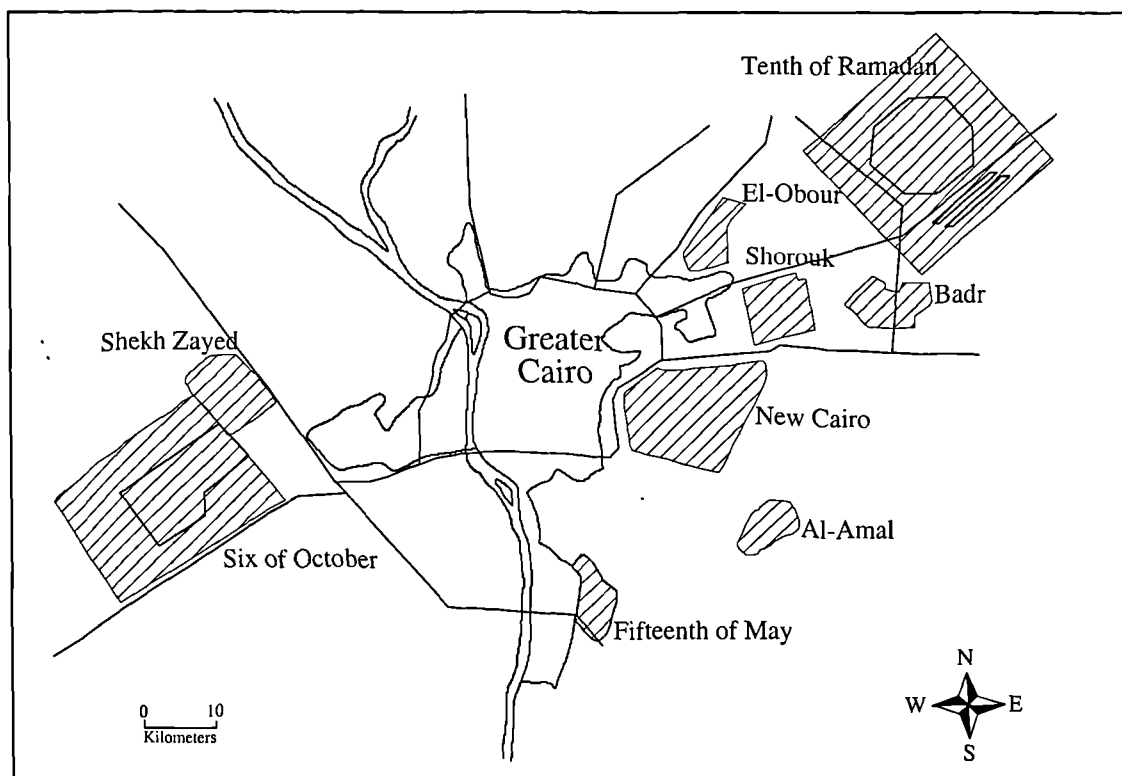


Figure 5.5: New Towns Around Greater Cairo (1997 Master Plan).

Source: M.H.U.NUC, 2000b, p.57.

5.3 New Towns Policy

Actually, most of the attention and efforts of the Ministry, since the 1978-1982 Five Years National Plan was produced, were mainly towards the new towns' policy and for preparing their plans, their strategies and chasing their progress. The government considered them as the best solution to control population excessive growth of GCR and to activate the derelict areas in the country for a balanced distribution of population. It had found that there would be a great urban problem if this excessive growth was not diverted and directed to other areas in the country. Therefore, in order to counteract this trend and relieve the population pressure on the metropolis creating opportunities for industry to be established, the Government decided a policy of redistributing the population and reshaping and drawing a new map for the country. This, to be achieved by creating new growth poles and by starting the process of designating lands for the building of new towns. Egypt started an ambitious programme to build a series of new communities within the context of a regional planning policy that aimed at conserving agricultural land and improving the quality of the living environment. The main principles of the policy are:

- To relieve pressure in the area of the Nile Valley and Delta with its overloaded infrastructure and services.
- To create new self-contained urban centres on uninhabited lands, not on agricultural ones, to alleviate pressure on existing urban areas and conserve agricultural economy.
- To encourage industry and create more job-opportunities (M.H.U.NUC, 1989, p.7).

Consequently, a number of new towns were to stand alone in the desert and away from the Delta and Nile Valley.

5.3.1 Reasons for the Construction of New Towns in Egypt

The first main reason for developing new towns in Egypt is to overcome the problems of population excessive growth and congestion in Greater Cairo, which are causing pressure on the infrastructure and transportation and consequently creating environment pollution problems and unhealthy standards of living. This is because of the imbalance between the size of population and economic resources, which were exploited in a very narrow area of the country (Nile and Delta Valley), whereas, other areas in the nation have economic resources but are neglected and not exploited. The second reason is the inefficiency of all efforts done to control the unorganized expansion of the Greater Cairo Region in order to limit 'spontaneous urbanization' which is an informal and unorganized settlements that covers large areas to the north, west and south of the metropolis contributing to all urban problems in the region. All solutions to this phenomena were temporary and proved invalid (Abd-Al Maksood, 1987, p.17).

The third reason is the increasing importance of industry in the state as an essential national economic resource. That led to the creation of a lot of factories in the core of major cities, increasing by that the problem of pollution and congestion in these cities. Therefore, it was thought that the movement of population towards industry is more acceptable than the industry movement towards residents in their local places of living. Transferring industry to new planned sites in the desert will be more advantageous to both industry and workers, also for better resources and facilities to import and export and for a better standard of living for workers (Hussaini and Shekh, 1986, p.38-41). The fourth reason is the seriousness of agricultural land erosion phenomena as a result of a continuous urban sprawl on it and the ineffectiveness of laws preventing this sprawl. Agricultural lands are diminishing at the rate between 50-70 faddan each year,

thus agriculture production, as an essential part in the national economy, was falling down gradually (Allam, 1990, p.29-31). Hence, these four reasons were the essential causes and incentives behind the establishment of new towns in Egypt.

5.3.2 Aims and Objectives of Egyptian New Towns

Aims are actually derived from the previous reasons behind their construction. As stated in the new towns' development policy, the aims are:

- a-To increase national and regional income.
- b-To relieve population pressure on Cairo, Alexandria and other cities in the Nile Valley.
- c-To increase the industrial base of the country.
- d-To create job-opportunities and consequently; reduce imports and increase exports.
- e-To diversify and improve employment opportunities.
- f-To enhance the strategic national security of the country by distributing the population over all the total land area.
- g-Further, they aimed to protect the fertility agricultural land of the Nile and Delta against encroachment and conversion to urban uses.

(M.H.NUC, 1989, p.9)

Reaching these aims was actually through the following objectives:

- 1-Reducing the high density of population in the Delta region by extending urbanization outside the Delta to the desert, thus absorbing a large share of the expected increase in population.
- 2-Changing movement trends to new towns instead to Cairo;
- 3-Relieving by that some of the existing and expected stresses on the services in the existing populated areas ,and at the same time;

4- Developing desert areas, and expanding the state's economic base by attracting new industrial enterprises;

5-Stimulating the private sector and its contribution to investment (IRUP, 1987, p.103).

5.3.3 Managing and Financing New Towns in Egypt

In the year 1979, the Government issued a law no. 59 for the establishment of New Urban Communities Authority (NUCA), to be the main responsible for the erection of these communities and also to be the main leader of the process (M.U.NUC, 1998). The NUCA became responsible for choosing the locations of the new towns; for the preparation of the general and specific plans of the towns; for conducting works in its different projects and activities; for making contracts or accepting loans, in addition to funds coming to it through the government's budget; for selling or leasing lands to Egyptians or foreign private sectors, under the aim of achieving economic development (M. H.U.NUC, 1993).

Regarding new towns finance, there are two main resources- external resources and local resources. External resources were encouraged by the Sadat's 'open door' policy stated in law No. 43 of 1974 that intended to attract foreign investors by means of special concessions, such as exemption for many years from taxation, duty-free imports and transfer of profits. External resources are provided in the form of grants and subsidies, loans, and companies or individual investors from foreign countries investing in the town or providing support in planning studies, as they are more experienced in the process. But later, as investments from abroad had lagged in the 1980s and because the establishment of purely Egyptian companies were encouraged at the same time, local resources appeared to play a greater role in the financing of new towns projects

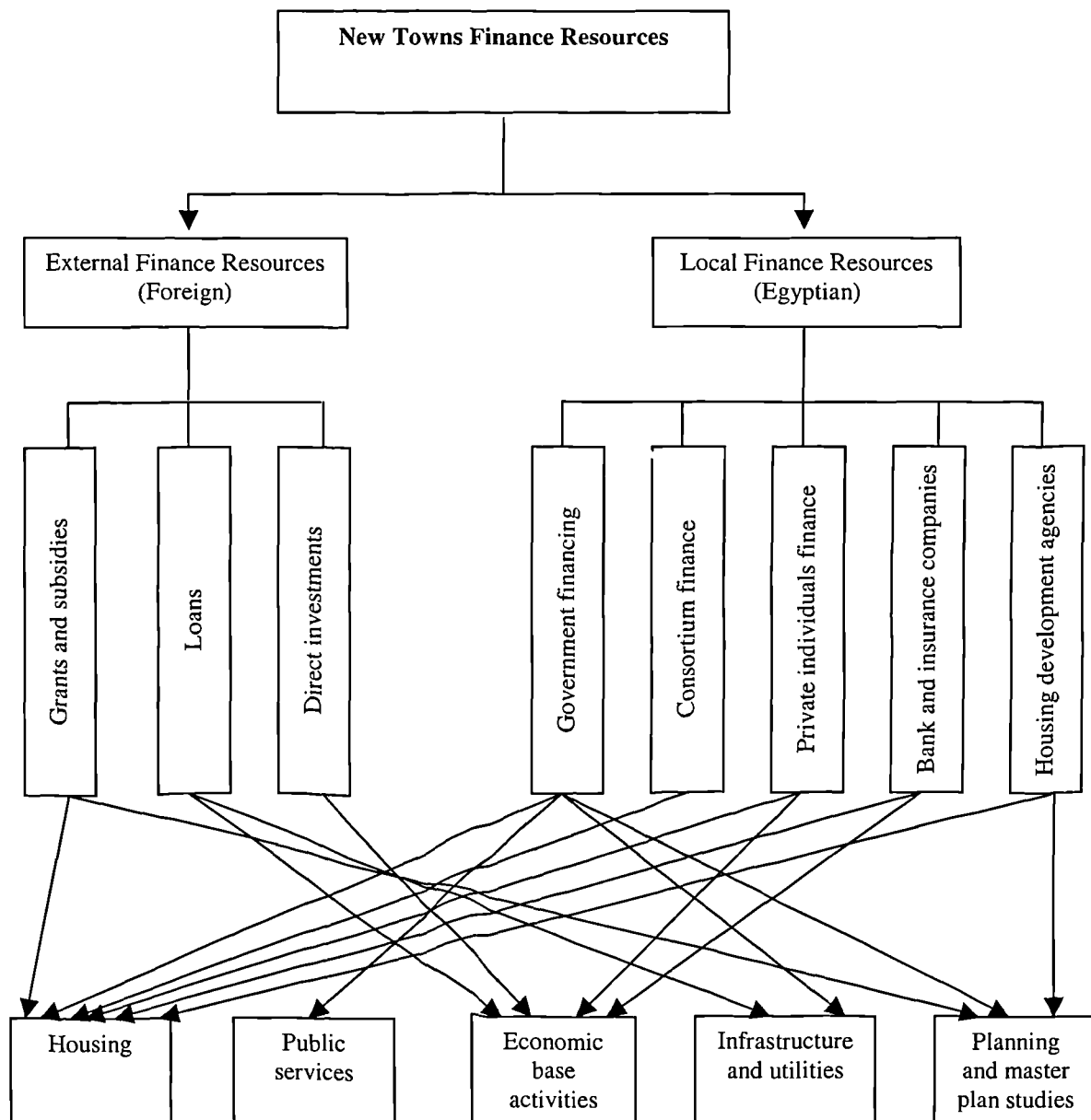


Figure 5.6: Finance Resources of Egyptian New Towns.

Source: By Researcher depending on Documentary Information.

(Gillespie, 1984, p.21). Local resources are represented by- the Government basically, the consortiums, the banks and insurance companies that are joint stock enterprises owned by public and private sectors and which invest mainly in housing to sell on mortgage bases; housing development agencies that are also mostly attracted to invest in housing projects, and some times, share as a consultative offices in the planning and

preparation process of master plans and research studies; and finally the private individuals who buy plots and build them as houses or factories or build other constructions of other economic activities in the town (Figure 5.6).

However, the financing process of new towns began by the public sector mainly, but later, it was gradually taking its steps towards the private sector. As between 1977-1993 the government had played the major role in financing the new towns, its role was not only limited to providing infrastructure but also extending basic facilities to the building. It even went as far as building luxurious housing units. Whereas the role of the private sector was only confined with the task of contracting for the execution of partial development activities, particularly in industry. Some times the private sector played the role of consultant offices for the Authority. Later, and in the beginning of the 1990s, when a transition towards market economy privatization and private encouragement in all development procedures took place in Egypt (Salah, 1999, p.99), the private sector represented by development agencies, banks and insurance companies, consortiums, and private individuals started to play an important role in new towns developments, as well as in financing processes, and this was increasing gradually.

At the beginning, the government allowed the private sector to implement and finance only luxurious housing planned by the government. Later, the private sector was allowed to plan and build whole limited housing compounds. After that, the government allowed the private sector to plan a very large area, ranging between 3 to 10 km², of different purposes (residential, recreational, commercial) and consequently, the private sector had become the one who is playing the major role in managing and

financing the new town. Currently, the private sector is expected to be more involved and to fund as well as manage, totally new communities projects (Albasel, 2000). In spite of the widely involvement of the private sector in the process, the government had spent, and is still spending, a lot of money on the new towns projects as the Financial Minister in Egypt had stated:

“Government budget investment in 2000-2001, in new towns development was 2400 millions and the whole budget spent in different projects from government till now is 15 billion Egyptian pounds, that represents 1.7% of the distributed national investment” .

(Jamal Aldeen, 2002)

5.3.4 Generations of New Towns in Egypt

The NUCA had supervised the development of 17 new towns spread all over the country, mainly around Greater Cairo. Those towns are classified in three generations, some of them are independent, some are dependent, and others are twin towns. This is in relation to the distance between the new town and its ‘mother city’. Other generations are expected to appear in the future, there are 14 towns now, in planning stages, in addition to 28 under study (M.H.U.NUC, 2000b, p.16).

First Generation of New Towns:

The first generation includes 6 new towns of different sizes and different distances from their ‘mother city’ built between 1977-1980. Most of those new towns depend on industry as an economic base. Targeted population in this generation ranges between 250,000 and 1,500,000 residents. Those towns are:

1. Tenth of Ramadan Town: The first new town built in the new towns’ programme in Egypt, the built up area is 94 km² of the 398 km² total area of the town. The town depends to a high extent on industry, which forms about 45% of its total built up area.

This town has been taken as a first case study. Therefore, it will be explored in more details in chapter 7.

2.Sadat Town: It is 93 km far from Cairo and built to protect agricultural lands in Munofia city from urban sprawl, and to reduce population density in the area of Delta. The built up area is 65 km² of the 500 km² total area. It was built to accommodate half million residents. Industry forms about 34% of its built up area.

3.Fifteenth of May: This town is constructed mainly to accommodate laborers working in the industrial area in Helwan, south of Cairo. The built up area is 13 km² from 35 km² total area to inhabit 250,000 residents.

4.Six of October: It is the biggest town, in targeted population, among the 17 new towns as well as in size. The built up area is 295 km² of its 408 km² total area to inhabit 500,000 residents. It is 38 km from Cairo and very near to the Ahram (Pyramids) tourism city.

5.New Bourg-Al-Arab: It was constructed to absorb a future population increase in Alexandria city. It is 60 km to the west of Alexandria city, and 7 km far from the Mediterranean Sea. The built up area is 63 km² of 225 km² total area and is planned to accommodate 500,000 residents.

6.New Damiatt Town: It is located near Damiatt city and built to prevent urban sprawl on its agricultural land as the city is expanding very fast. This town is considered as a twin town and is about 4.5 km from its mother city to the west of new Damiatt port. The total area is 27 km² , all built to accommodate 270,000 residents.

Second Generation of New Towns:

This generation includes 8 new towns that began their development between 1982-1989. The targeted population ranges between 70,000 and 1,500,000 residents. Six of those new towns are built for housing as well as industry reasons and the other two are for housing reason only. Those towns are:

7. Badr Town: The first new town in the second generation and has an important location between three regions (Delta, Suez, and Red Sea). It is 47 km to the east of Cairo. This town is chosen as a second case study. Therefore, it will be explored in more details, in chapter 8.

8. El-Obour: It is located north-east of Cairo, and is 30 km far from it. The built up area is 53 km² of the total 68 km², to the south of it is Cairo/Ismailia Road, and to the west is Cairo/Belbeis Road. 27% of its built up area is for industrial use. It is planned to accommodate 500,000 persons.

9. New Salheya: Its economic base is industry, as well as agriculture. It is situated north east of Zakazik city and to the west of Ismailia Governorate. Its total area is 7 km², and nearly 43% of it is for industrial use. This town is planned to accommodate 70,000 persons.

10. New Noubaria: It is 79 km from Alexandria and 151 km from Cairo. The total area of the town is 8 km², and is very small, compared to others. The town depends mainly on agriculture as an economic source. 49% of this area is agricultural land-use and

18% is for industry, whereas 13% only is for residential area. Actually, it is a working area and planned to provide dwellings to workers in these two sectors in the town.

11.New Beni-Suef: This town is considered as a twin town. It is 4.5 km from Beni-Suef city. It has been built to absorb excessive population growth in its mother city, and at the same time, to direct urban growth in the area to the desert. It is 124 km from Cairo, 123km from Menia, 60 km from El-Faium, and 162 km from the Red sea. The built up area is 23 km² of the 163 km² total area. About 35% of the built up area is for industry. The town is expected to accommodate 420,000 residents.

12.New Menia: It is 15 km far from Menya city and, 248 km from Cairo. The town is built to absorb population increase in the mother city and to protect agricultural lands from urban sprawl. The built up area is 19 km² of the 102 km² total area. It has been built to accommodate 156,000 people.

13.El-Shorouk Town: It is surrounded by three new towns (Badr- El Obour- Tenth of Ramadan) and is about 37 km to the east of Cairo on the Cairo/Ismailia Road. Its built up area is 42 km² of the 45 km² total area. It is planned to provide dwelling units for about 500,000 residents. Residential area occupies most of the land, as 91% of it is for this purpose, its main role is housing.

14.New Cairo Town: This is the nearest town to Cairo, 15 km to the east of it, located on the eastern arch of Cairo to the east of the Ring-Road between two main roads Cairo/Suez road and Cairo/ Al-Ean AL Soknah road. The town is large in size, of 224

km² built up area. Its main role is housing and planned to absorb Greater Cairo's population increase, therefore 77% of its total area is for residential use.

Third Generation of New Towns

Three newtowns only are included in this generation- Shekh Zayed, New Asuit, and New Tiba. The three master plans were ready in 1995. The targeted population ranged between 35,000 – 450,000. The towns are of different sizes and also of different distances from their mother cities. These towns are:

15. Shekh Zayed Town: located to the west of Greater Cairo and very close to Ring-Road. It is about 38 km from Cairo and few kilometers from Six of October Town. It is built to absorb population increase in Greater Cairo. This town is chosen as a third case study in this research. More details about it are in chapter 9.

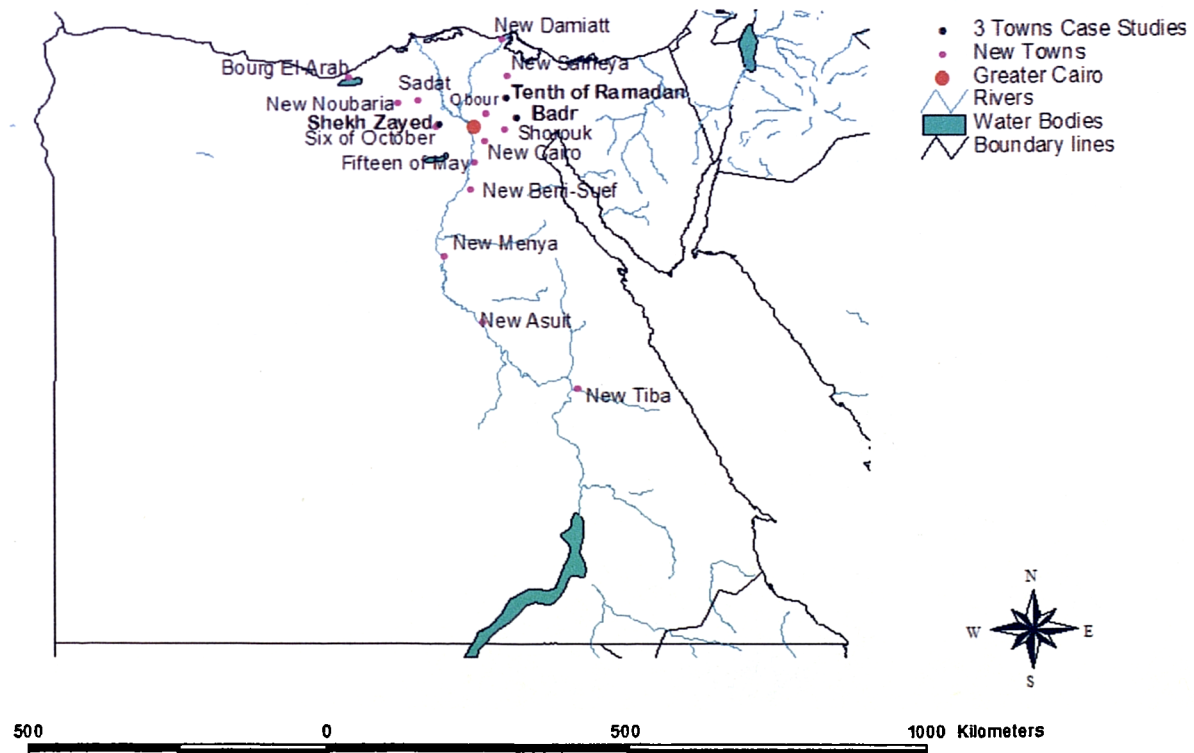


Figure 5.7: New Towns on the Map of Egypt.

Source: Ministry of H.U.NUC, 2000b, p.16

16. New Asuit: It is 4.5 km from Asuit, so it is considered as a twin town. It is situated to the east of the Nile River, at the junction between Cairo/Aswan road and Cairo/Gardaa road. The built up area is 10 km² planned to accommodate 130,000 people.

17. Tiba Town: It is the smallest town, in targeted population and in size, among the seventeen new towns. Targeted population is 35,000 and built up area is 2.8 km². It depends mainly on tourism services, as economic base, which are available in Luxour city, the most famous tourism area in Egypt. The town is built to serve Luxour city, providing different services for tourists who come from all over the world to visit the city. It is 14 km far from Luxure and 10 km from its international airport.

	No.	Town Name	Year	Targeted Population	Size of Built-up Area (km ²)	Town's Regional Role	Distance from 'Mother city' (km)
First Generation	1	Tenth of Ramadan	1978	500,000	94	Housing+industry+Agriculture	55 from Cairo
	2	Sadat	1978	500,000	65	Housing+industry	93 from Cairo
	3	Fifteenth of may	1978	250,000	13	Housing	35 from Cairo
	4	Sixth of October	1979	1,500,000	295	Housing+industry+Tourism	38 from Cairo
	5	Bourg El-Arab	1979	500,000	63	Housing+industry	60 from Alexandria
	6	New Damiat	1980	270,000	27	Housing+industry	4.5 from Damiat
Second Generation	7	Badr	1982	430,000	51	Housing+industry	47 from Cairo
	8	El-Obour	1982	500,000	53	Housing+industry	30 from Cairo
	9	Salheya	1982	70,000	7	Housing+industry	100 from Cairo
	10	New Noubaria	1986	144,000	8	Housing+industry+Agriculture	79 from Alexandria
	11	New Beni-suef	1986	420,000	23	Housing+industry	4.5 from Beni-Suef
	12	New Meya	1986	156,000	19	Housing+industry	15 from Al Menya
	13	El-Shorouk	1986	500,000	42	Housing	37 from Cairo
	14	New Cairo	1989	1,500,000	224	Housing	15 from Cairo
Third	15	Shekh Zayed	1996	450,000	39	Housing	38 from Cairo
	16	New Asuit	1995	130,000	10	Housing+industry	4.5 from Asuit
	17	New Tiba	1995	35,000	2.8	Housing+tourism	14 from luxour

Table 5.2: The 17 New Towns Constructed in Egypt (Three Generations).

Source: Based on M.H.U.NUC, 1989; and M.H.U.NUC, 2000b.

In this research, one town from each generation has been chosen for investigation, in order to study the matter from different sides. Thereby analysing why most of those towns are lazy and unable to achieve the population targeted and absorbs population excessive growth in the major cities. Choosing case studies from different periods was meant to avoid hanging the reason on the period of time that usually every new town needed to grow and stand up, taking its role in the population distribution. Here, and as will be explored, the three towns, in spite of their different periods of construction, are facing, to a certain extent, the same problems. Therefore, other reasons are to be investigated.

5.4 Conclusion

It appears that the government was trying in all ways to control the excessive growth of population in Egypt, especially in Greater Cairo with its informal expansion, which was a difficult task as was reviewed. The plans of 1956 and 1970 couldn't achieve their aims in the required control process. Although the war was a reason, but also the nationalization policy that president Jamal Abd-El Nasr decided in the 1960s, had affected them as well. Thus the private sector was restricted and came under extensive regulations, as many enterprises owned by Egyptians nationals and foreigners were nationalized. Basically, most of the nation's finance was spent on war and on encouraging industry without a forward planning vision and thinking about the future of those industrial projects and their effectiveness on the urban growth of the region. In spite of that it had provided job-opportunities from one side, but had increased the immigration to Cairo from the other side and added to the population excessive growth problem in GCR.

But later when Sadat came to power, the combination of political and economic difficulties that Egypt was facing had led him, after the 1973 war, to decide a new policy different from previous president's policy, encouraging the private sector to share in the development of new projects in the nation. Also Sadat had opened the way for a large inflow of foreign funds. The Five-Years plan (1978-1982) went in a relatively better progress of previous ones and was updated, taking into consideration the policy of new towns in the country. Now some new towns had already gone through a significant development process, but they are still not able to absorb the amount of population planned for them and are expected to move from GCR to those towns.

Although there are obstacles and problems in the Egyptian new towns themselves preventing them from attracting population from Greater Cairo (as will be illustrated in chapters 7,8 and 9), there are also attractions within Cairo that pull people and encourage them to stay within the city. Greater Cairo, as found before, includes many political, commercial, agricultural, industrial and touristic resources. It is located in the angle of the Nile Valley and Delta area, which is the most fertile part of it. It is the largest industrial centre in the country that contains almost all major commercial and financial establishments, and has the highest economic growth rates among other cities in Egypt as well as the highest opportunities of work (Yousry and Aboul Atta, 1997, p.111). In urban agglomerations like Cairo, it is always referred to agglomeration economies, which is the geographical concentration of industries associated with urbanization and improved transportation and communication facilities (Henderson and Kuncoro, 1996). There is a good access to market, the presence of buyer-supplier networks, and the availability of a large labour pool with multiple specializations. Workers would also benefit from being in an agglomeration as they can expect higher

wages and have access to a larger choice set of employers, taking into account its accessibility and the powerful transport networks which provide an easy connection with the world surrounding (Iall, Shalizi, and Deichmann, 2004). Cities, which are strategically located like Greater Cairo, are engines of economic growth, they perform a commanding influence over surrounding smaller cities and towns (Sosmena, 2002). Cities like Cairo are the magnets for rich and poor alike, a place where cultural and economic opportunities abound. Therefore, any attempt to redistribute the national population of GCR must account for its cultural, economic and scientific attractions. Nevertheless, those attractive factors in Cairo are accompanied by the high prices of lands, population high densities and the shortage of affordable accommodation as well as level of urban-services (Bayat and Denis, 2000, p.191).

However, this chapter was about Egypt and its capital city 'Greater Cairo' and the new towns' policy in general. Whereas, the following chapter is an illustration of the research methodology used in the whole research study explaining methods and techniques involved in the field survey done in Egypt. This is before getting to the chapters related to the research field case studies.

Chapter 6:

The Research Methodology

6.0 Introduction

After reviewing some experiences of new towns in the developed as well as developing countries, this chapter will review the research methodology of the whole study before introducing chapters on the research field survey. The research methodology is the logic that aims to link the data to be collected with the aims and objectives of the study towards the conclusion to be drawn for the research. It is the plan that guides the investigator in the process of collecting, analyzing, and interpreting data and at the end whether the obtained interpretation can be generalized to a larger population or to a different situation (Yin, 1994). The following paragraphs will explore the problem that the research is going to investigate, the research main question, and the approach to answer this question.

The Problem and the Research Question

Egypt was chosen as the main field study for the research because of its strategic location within the Mediterranean and Arab Countries, and its population size, and because it has the highest urban density among them. The population of Egypt has doubled three times between the years 1947 and 1996 (M.H.U.NUC, 2000a, p.5), particularly, Greater Cairo, in terms of its irregular growth characteristics, and increased residential density. This is in addition to the high concentration of economic activities and employment opportunities in Greater Cairo. After different trials by the government to overcome the high increase of population in the country, they finally decided on the idea of constructing new towns. In deciding that, Egypt would have gone further than any other country in the region in the new towns' policy programme. Since the 1970s it had started developing 17 new towns, and more are to be built in 2017. Yet, none of them had achieved its targeted population. For instance, the Sadat

town started its development in 1978 with a targeted population of 500,000 in 2003. Actually, the population estimated in 1996 was 16,312. Also, the targeted population in Bourg Al-Arab town was 500,000 but the achieved number was 10,000 residents only. The targeted population in New Noubaria was 144,000 whereas the achieved number was 2,100; etc (table 6.1).

No.	New Town Name	Year	Targeted Population	Population Achieved in 1996
1	Tenth of Ramadan	1978	500,000	47,839
2	Sadat	1978	500,000	16,312
3	Fifteenth of may	1978	250,000	65,865
4	Sixth of October	1979	1,500,000	35,477
5	Bourg El-Arab	1979	500,000	10,000
6	New Damiat	1980	270,000	20,000
7	Badr	1982	430,000	248
8	El-Obour	1982	500,000	1,250
9	Salheya	1982	70,000	15,000
10	New Noubaria	1986	144,000	2,100
11	New Beni-suef	1986	420,000	N/A
12	New Meyya	1986	156,000	N/A
13	El-Shorouk	1986	500,000	N/A
14	New Cairo	1989	1,500,000	N/A
15	Shekh Zayed	1996	450,000	N/A
16	New Asuit	1995	130,000	N/A
17	New Tiba	1995	35,000	N/A

*Note: CAPMAS censuses are produced every 10 years 1986, 1996, 2006, etc so the above are the recent till now.

Table 6.1: Comparison Between Targeted and Achieved Population.

Source: Yousry, M. and Aboul Atta, 1997, p.

Therefore, the research question is: **what are the reasons for the failure of the Egyptian new towns to reach their targeted population?** This is actually what the research is intending to investigate, in the following chapters.

The Approach

In order to answer the research question, the study will work from particular case studies, which are chosen from a country that represents, developing countries in the

area of the Middle East and North Africa, in many aspects. At the end, a general conclusion on the planning theory of new towns in developing countries is reached, based on the intersection among case studies survey results and the comparative study between developed and developing countries experiences. The study uses both qualitative and quantitative research methods that depend on non-numerical data from interviews, focus groups, and literature information; and on numerical data obtained from the questionnaire survey and government's statistics related to the subject.

As a matter of fact, some of these new towns in Egypt were funded by the public sector, others by public-private partnerships, and the rest by the private sector. Therefore in choosing the research case studies it was decided to draw a comparison between new towns which are different, particularly in regard to three main issues: the time of construction (one case study was chosen from each generation), the funding and the evaluation regarding their success or failure. At the same time there are broad similarities in terms of the size of population as well as the distance from Greater Cairo. This is actually to avoid putting the causes of success or failure of new towns in achieving their aims on these two factors (table 6.2). Thus, three case studies were selected in Egypt for the field survey: the Tenth of Ramadan town from the first generation; Badr town from the second generation; and the Shekh Zayed town from the third, all to be investigated in detail in the following chapters.

Badr town is close to the Tenth of Ramadan. There are 19km between the two towns and it could be thought that the results of one of them could be affected by the other. But it seems likely that the problems found in Badr town (as will be explored in chapter 8) are more probably related to funding issues and a weakness in the planning and implementation process in the town rather than the influence from another town. The

only aspect that might be affected by the proximity of another town is the industrial sector, as investors in the area were attracted to the Tenth of Ramadan more than Badr, but this is probably due to management policies such as tax exemptions that were applied in the Tenth of Ramadan town but not in Badr. However, there were no choices in selecting Badr town from the second generation as this generation includes 8 towns of which 4 towns (New Beni-Swef, New Menya, El Shorouk, New Cairo) have no recent statistics available in the CAPMAS census for their achieved population (table 6.1), and among the remaining other 4 towns, Badr town is the only one from this generation financed entirely by the public sector, whereas the others were financed by a partnership between public- private sectors. The researcher intended to highlight this issue and link it to other reasons preventing the Egyptian new towns to achieve their targets. Sheikh Zayed town from the third generation has not got statistics recorded in CAPMAS census as well, but as towns of the third generation are privately funded, their recent population statistics were available in their town councils.

Case-Studies	Tenth of Ramadan	Badr	Shekh Zayed
Date of Commencement	(First Generation) 1978	(Second Generation) 1982	(Third Generation) 1996
Body Funding	Public-Private Sector	Public Sector	Private Sector
Evaluation	Relatively Successful	Unsuccessful	Unsuccessful
Size of Population Targeted	500,000	430,000	450,000
Distance from Greater Cairo	(35-55) 55km	(35-55) 47 km	(35-55) 38 km

Table 6.2: Differences and Similarities of the Research in Three Case Studies.

Source: By Researcher, 2002.

As social research is about theory and evidence, this research was divided into three main parts: the literature review; the field survey; and the analysis and conclusion.

6.1 Literature Survey

This research studies the problems of new towns policy in developing countries in the area of Middle East and North Africa. For a better understanding of the policy, the research begins with a survey of literature, in relation to the planning and implementation theory, as well as, the management process of new towns. Then follows a literature review of the experience of new towns in developed countries. Here Britain and France were chosen as examples to explore their experiments as they are considered pioneers in the new towns programme and also because these two countries have a very similar situation to that in Egypt, regarding the concentration of a high percentage of the nation's population in one specific city, such as the capitals London, Paris, and Cairo (more illustration in ch11). The governments in those three countries had thought of the new towns programme from the same point of view: that of relieving the major cities from the excessive pressure of population and, at the same time, encouraging industrial developments in depressed areas.

After that, a literature review on new towns in developing countries in the Middle East and North Africa follows. Here two countries were selected: one is Saudi Arabia from the Middle East and the other is Algeria from North Africa. The two countries were chosen because they both had relatively successful experiments with new towns programmes and they share somehow, the same traditions and environment circumstances with Egypt, which constitutes the main field study. In addition, exploring more than one experience in developing countries, which had applied the idea of new towns, is useful in finding out the impact of transferring same ideas determined in western countries and their validity to apply in eastern ones. Basically, reviewing these different experiences, as a whole is to lead to an elaboration of the planning theory and

project management expertise. Such review supports the investigation in the issues that shape the implementation process. Then a chapter on Egypt, which is the main field study, follows. It provides a background about Egypt and explores the Egyptian urban growth policies as well as the problems in the new towns experience, but in general.

Actually, there were some theories on the new towns in Egypt and the research study derived from that, as some writers and researchers had written on subjects relevant to this study, but with different research objectives and from different views. For instance, Asef Bayat and Eric Denis in 2000 studied the problem of population growth in Greater Cairo particularly, depending on the 1996 census under the title of “Who is afraid of Ashwaiyyat? Urban change and politics in Egypt”; the paper challenges the orthodox view that rural migrants are causing a rapid expansion of Egyptian cities and looks at the spatial diffusion of urban development through the growth of urban villages and industrial towns. It also illustrates how in large informal settlements a great percentage of the urban population experienced increased poverty, crime and political violence problems. However, their study depended more on information obtained from government institutions and their statistics on demographic trends in different areas in Egypt.

Another study relevant to the subject investigated was an article written by Dona J. Stewart, from Florida Atlantic University in 1996, under the title: “Cities in the desert: The Egyptian New-Town Program”. Her paper examines the Egyptian programme for new towns and the government’s view of the rules of new towns in fostering economic growth and population redistribution, and also the ideological roots of the Egyptian new towns policy, which are traced to the new towns established in Europe and the

United States. The study reviews briefly three new Towns, all from the first generation: 10th of Ramadan, 6th of October and Sadat town. But this study concentrates on assessing their economic growth, evaluating industrial activities, their developments, workers, wages and employment rates. The study depended on government statistics. However, it speaks about the lack of comparable annual data, the same thing I suffered from during the field survey. There was a general report in 1989 on new towns but only a partially updated one in 1993. That was until the time of publishing her work.

The recent study by Keith Sutton and Wael Fahmi in 2001, which is relevant to this research, was presented in a paper titled: "Cairo's urban growth and strategic master plans in the light of Egypt's 1996 population census results". The paper discusses Greater Cairo's master plans since the 1970s and their main aim of diverting population growth away from Cairo region towards the desert fringes to the east and west, where the new towns were located. The paper notes that only limited growth had occurred in the new towns, pointing to several factors behind that, such as unplanned spontaneous urbanization, the inability of new towns to attract people, constraints on public spending, and the boost to private housing development. The research actually studied (briefly) New Cairo town, as a case study, suggesting future scenarios such as the Cairo-Alexandria urban corridor.

However, the previous papers referred here were based on information obtained from reports and government statistics (secondary data) thus they are somewhat limited. Therefore, in order to build on previous work, this research study includes fieldwork in the Egyptian new towns because this provides access to local data, and gets deeper into the issues through the contact with the residents living in new towns who were affected

by the failure of these towns. So this research surrounds the problem from a number of sides and also studies it in different periods of times. In addition, this research draws together experiences from developed and developing countries. This is aimed at learning lessons from those different experiences for a better understanding of the new towns policy, its planning, management and implementation processes.

6.2 Field Survey Studies

After completing the literature review of new towns experience in developed and developing countries, it was then the time to prepare for the field survey visit to Egypt, deciding what sorts of information are needed to get from there and the means of data collection that were intended to be used. The structured questionnaire was to be arranged and reviewed many times to make questions, to those living in the case studies, more simple, brief, useful and serve the research aims. After that the research visit to Egypt took place, and lasted for nearly two and a half months. The work focused on three case studies: The Tenth of Ramadan which is considered to be relatively successful new town and two others, Badr town and Shekh Zayed town, which are considered to have been problematic.

Investigating these three case studies provides a rich view of mainly qualitative as well as quantitative information that can lead to a powerful understanding of the planning and implementation process (Masser, 1986). The research visit included three elements: a study of published and semi-published documentary information about the new towns programme to obtain a background about the planning and implementation process in Egypt; a series of 'expert interviews' with professional planners, architects, politicians and others to establish expert opinions on the strengths and weaknesses of the planning

and implementation process; and a social survey with new towns' residents to establish their view about the characteristics of the new towns. Creswell (1994) suggested four basic types of collecting data: documentation, interviews, observations and audio-visual materials (videotapes or photographs). These four types were used in the research visit as the following.

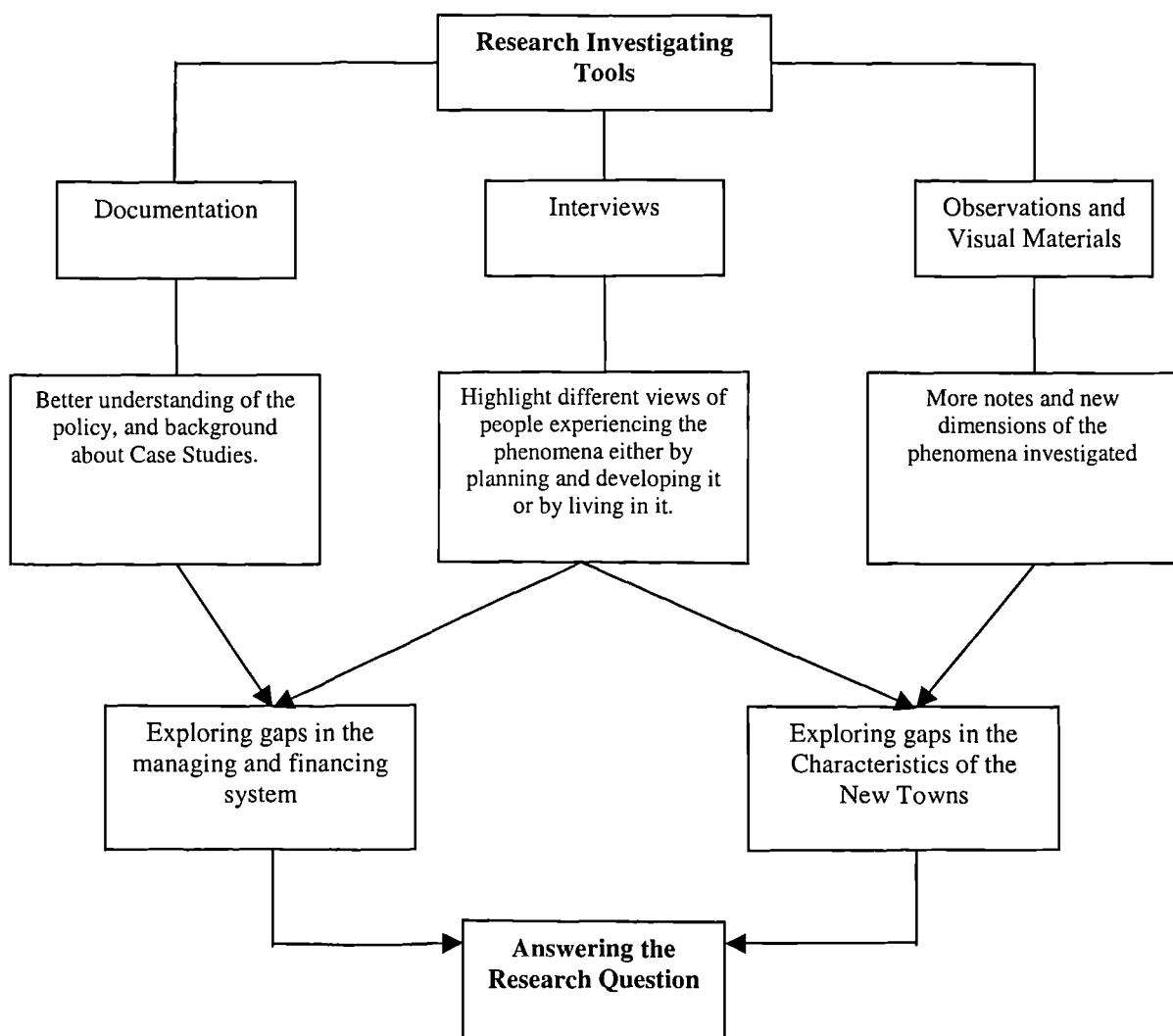


Figure 6.1: The Research Plan.
Source: By Researcher.

6.2.1 Documentation

During the research visit, it was better to begin with the collection of documents that could provide better understanding and awareness of the new towns policy in Egypt and to understand more about Egypt itself as a country: its weather, geology, land use, transportation, etc. The collection of documents helps obtaining more details about the three case studies suggested for investigation, their master plans, number of population living in them and other information that help in choosing the sample of study in each town for the questionnaire survey. However, this information was obtained from libraries of Cairo university, Helwan university, CAPMAS, Towns' Councils reports, Research and Technology Centre, Ministry of Housing Utilities and New Urban Communities, and other libraries of public institutions, in addition to famous approved national newspapers, such as 'Al Ahram News' and other articles relative to the same subject.

6.2.2 Interviews

After studying the documentary information obtained, it was time to start the interviews. During the investigation three types of interviews were made: expert interviews, social questionnaire, and focus groups.

Expert Interviews (EI):

This includes interviews with planners and officers in the 'Ministry of Housing, Utilities and New Urban Communities' that had shared in the process of planning and implementing new towns in Egypt. In the Ministry of H.U.NUC, two persons were interviewed: Eng. Hanan Akel, manager of planning and research studies in the Ministry; and Khaled Husen, planning engineer in the urban planning section in the same Ministry. Besides, in each case study, two officers from the town council were

interviewed, of those who are entrusted with supervising the process of constructing the new towns. The following engineers were also interviewed: In the Tenth of Ramadan Council: Eng. Iptisam Hamza and Eng. Hanan Mostafa; in Badr town: Eng. Sulaiman Muhamad Sulaiman and Eng. Nashat Mouhamad; in Shekh Zayed town: Eng. Mohamad Al Jawahiri and Mostafa Abd Al Monem. These interviews were conducted on a semi-structured basis designed to elicit from the interviewees a rich volume of qualitative information about the planning, implementation and financing processes. This technique is not intended to provide statistical information, but to enable a deeper understanding of the problems to be examined, giving considerable freedom to the respondents to express their views regarding the new towns programme; their assessment and their opinion of the constraints facing the implementation of new towns as targeted; and what do they think in respect to alternative policies of financing and managing the activity.

Social Questionnaire Survey (SQS):

A sample survey requires solutions to three different methodological questions: Sampling, designing questions and interviewing (Fowler, 1993 p.4). In this research, the survey takes the form of a structured questionnaire with a series of multiple choice of answers which aim at collecting information on a statistically significant basis. This is to arrive at general constant conclusions on a limited number of questions relative to the respondents' perception of the new towns' characteristics and environment. Two important things in the questionnaire affect the validity of the results. The first thing is the sample of residents who were selected for the questionnaire. The second is the questions themselves, i.e. were they explained to the respondents so that they understood them easily, and did they focus on the subject of the investigation.

Sampling:

In the social questionnaire survey, it is important to generate results that are valid, reliable and independent of the research setting. The main way to achieve this is by the random selection of the interview sample, and through the administration of standardized questions with multiple-choice answers that could be readily tabulated (Silverman, 2001). Bryman (2001) as well stated that,

“We will want the sample to be as representative as possible in order to be able to say that the results are not unique to the particular group upon whom the research was conducted”.

(Bryman, 2001, p.75)

Also it was important to avoid having a biased sample because this would not represent the whole population accurately and would lead to incorrect research findings. In addition, size of sample is another important issue as Henry, (1990), stated:

“Sample sizes are the most potent means of achieving estimates that are sufficiently precise and reliable for policy decisions or scientific inquiry”.

(Henry, 1990,p.117)

The time and cost also influence the sample size (Bryman, 2001, p.79). However, the researcher had to make a decision about the ‘sample frame’ before starting the field survey, choosing the area from where the sample would be selected, as any sample selection will give some individuals a chance to be included in the sample while excluding others. Before beginning to frame the sample some constraints on the survey work were necessary to consider. Although increasing the sample size reduces the errors in the results, permission regarding the sample size was given from the Ministry to carry out 50-60 questionnaires only in each town (150-180 in total). So, there was no choice in the sample size, and therefore it was important to choose the sample carefully to be as representative as possible of the total population. In the field survey however, this permitted number was stretched to 72 questionnaires in the Tenth of Ramadan

town, 63 in Shekh Zayed town and 57 in Badr town, which is the least populated town among the three selected case studies.

Strategic case selection requires considerable groundwork to identify the characteristics of a large number of cases in order to see which ones satisfy the criteria for selection (De Vaus, 2001, p.242). Therefore, it was necessary to ask officers in the towns' councils to help in finding buildings and areas registered as 'occupied' in their records to save time in framing the sample. Thus, in each council town of these case studies, the officers provided two plans of the town to facilitate the selection of the sample. One plan demonstrates the occupied areas and the empty ones. The other plan classifies building units (blocks) in the neighbourhoods according to income levels. In addition, an approximate percentage estimation of each dwellings income-level that is built and occupied in the town was provided. It was noticed from the plan that each town had one or two certain income-group level dwellings that formed the majority of the constructed dwellings. So, the two maps were integrated into one map with the estimations of each dwellings level and the sample is now ready for framing.

However, it had been intended to choose the sample in each town in a way to include all different income-group levels and thus from different clusters of buildings and neighbourhoods. Therefore, in order to avoid a biased sample, the researcher decided to stratify the sample to reflect the structure of each case study. For instance, in the Tenth of Ramadan, the planning officer in the council had estimated, according to statistical calculations of different dwellings levels recorded as occupied in the council, that nearly 70% of the dwellings built and occupied in the town are from the middle-income group level, whereas the rest are a mixture of upper-middle and upper-income levels, as well as, low-income level. And as the number of permitted questionnaires was limited

to 60 in each town, this number had to be divided in a way to coincide with the percentages of each level of dwellings. Thus 42 questionnaires had to be taken from the middle-income level dwellings, and nearly 6 questionnaires from the low-income dwellings level, 6 from the upper-middle dwellings level, and also 6 from the upper-income dwellings level.

The next step was how to select the dwellings from each level that will be questioned in the town. In the Tenth of Ramadan plan, for instance, there are only 8 districts built out of the 16 districts planned in the master plan, and so the sample should be chosen from those 8. The researcher had numbered these districts on the plan from 1 to 8 and then selected four districts from the eight, which are numbers: 2,4,6 and 8. After that, the previous number of questionnaires (60) required was divided on the four districts chosen. This means in each district 15 questionnaires are required of which 10 questionnaires are required from the middle-income level, 2 questionnaires from the low-income level, 2 questionnaires from the upper-middle level, and 1 questionnaire from the upper-income level will be selected for the survey (according to council's statistics of different level dwellings percentages).

The strategy used in selecting the sample is the 'multistage sampling' with the application of the 'Area probability of sampling' which is used to sample any population that can be defined geographically for example, the people living in a neighbourhood, a city, or a country; in the first stage of sampling, blocks are selected, and secondly, housing units on selected blocks are listed and selected from the lists (Fowler, 1993, p.20). Each district in the town includes 8-9 neighbourhoods. Some neighbourhoods include only two levels of dwellings, some include three levels and

others include the four levels of dwellings. The researcher had selected one neighbourhood from each district to do the questionnaire in it, which contains all different levels of dwellings. Then the researcher asked the council to provide lists of dwellings occupied in each block in the selected neighborhood. Typically the selected neighbourhood includes 40 occupied housing units, of which 20 are blocks for middle-income level dwellings (each block consists of 8-10 dwellings), 10 blocks of low-income dwellings level (each block contains 8-10 dwellings), 5 units of the upper-middle income level (each unit contains semi detached houses), 5 units of the upper-income level dwellings(detached houses). Therefore,

- 1) The 10 questionnaires required from the 20 blocks of middle-income level dwellings (each block consists of 8-10 dwellings) were selected systematically in 5 blocks at an interval of every 4 blocks, i.e. one block from the first four and another block from the second four and so on, up to 5 blocks (two dwellings were picked randomly for the questionnaire from the list of dwellings in each selected block).
- 2) For the low-income dwellings level, if there are 10 blocks (each block contains 8-10 dwellings) and 2 questionnaires were required only, so 2 blocks were selected systematically for the questionnaire, one from the first five and another from the second five (one dwelling was picked randomly from the list of dwellings in each selected block).
- 3) For the upper-middle income level units (each unit contains semi detached houses), if there are 5 units and 2 dwellings only are required for the questionnaire, so 2 units were selected from the five, either unit 1 and unit 3, or unit 2 and unit 4 (one house was picked randomly to be questioned from each selected unit).
- 4) For the upper-income level dwellings (detached houses), if there were 5 units as well in the neighbourhood, so one house was selected randomly 'out of the hat'

from the five. Applying the same strategy on the other three districts had led to get the 60 questionnaires required in the new town.

It was important to ensure that dwellings selected from the blocks of 4-5 floors are not chosen from a particular floor whereas from different floors (ground, first, second, etc). But even then, some of the blocks those of 8-10 dwellings, were recorded as 'occupied' but had only one or two dwellings occupied out of 8-10 included in the same block. So, the researcher had to select additional blocks randomly which were not selected before to cover the missing dwellings those listed under occupied blocks but were found empty. Therefore, the number of questionnaires had varied from one town to another. It was necessary as well to do the questionnaire in different times of the day and also to include the weekends, so that employed residents were not excluded from the questionnaire.

Thus, this was the target when started on the social questionnaire survey in the Tenth of Ramadan and the results achieved at the end were 72% of the questionnaires from the middle-income level dwellings, 10% from the low-income level dwellings, 8% from the upper-middle income level dwellings and the rest are from the upper-income level dwellings. The same strategy was carried out in choosing the samples of Badr and Shekh Zayed towns for their social questionnaire survey (table 6.3).

It is acknowledged that the sample size was smaller than would have been ideal, but this was beyond the control of the researcher. It is recognized that this has had some impact on the validity of the results as shown by the chi-square tests made in chapters 7,8 and 9 (as will be explored later in the following chapters). However, the sample was

stratified according to statistical records in the three new towns' councils and also the researcher tried to choose the districts in a way to cover different areas in the towns' master plans and also included all different dwellings levels as well as selected different times of the day to do the questionnaire, therefore the samples were broadly representative of the wider population in each town.

The methods usually used in carrying out questionnaire surveys are: "mail, telephone, or personal interviews, all related to research topics, characteristics of the sample, available facilities, and the most important is the environment in which the survey is conducted" (Fowler, 1993, p.54). But as people in Egypt are not much used to e-mails, letter filling or telephone as the network is still not connected to all parts of the new town, therefore, the personal interview was the most appropriate way to do the field survey and people in Egypt had already got used to it.

A number of local assistants there, in Egypt, had offered help in doing the questionnaire survey from time to time. However, it was important to explain to them the questionnaire first to enable them to get a good understanding of the research survey and its aims, and also to explain the questions and answers that they might get and how to classify them on the questionnaire form. Then they were asked to accompany the researcher in some visits to show them how the questionnaire should be done and what were the most important points to explain and discuss with respondents when it was required. After that, each one went to do the questionnaire alone. However the assistants did less than 10% of the questionnaires in each town, whereas the researcher did nearly 90% of the questionnaires. It is important to know that this questionnaire is

not a postal questionnaire, therefore consistent explanation was offered for each respondent in order to get an answer for all questions.

Selecting the Questions:

It was important in designing the survey questionnaire to choose questions that contribute to achieving the research aims. Therefore, prior to the preparation of the questionnaire, the researcher had several assumptions regarding the reasons behind the failure of the Egyptian new towns to achieve their targeted population. Those assumptions were picked out from previous studies on the Egyptian New Towns programme, in which some of them had pointed to problems such as “poor basic services and the lack of social and educational infrastructure have discouraged families from settling in the new towns” (Sutton and Fahmi, 2001, p.145). Therefore one assumption was that residents might be unsatisfied with educational services, health services, cultural and entertainment services, shopping facilities or others, which are important services to settle down in a town. Thus, residents were asked about their satisfaction toward those different services through several questions under the title of ‘Commercial and Public Services’.

Also, some of these studies pointed out the “lack of employment opportunities in the new cities in addition to high cost of living in these towns” (Stewart, 1996, p. 476). Therefore, the second assumption was that perhaps the residents were not finding job-opportunities in the town, which suited their qualifications, and so they had to travel to their work every day outside the town. Thus, several questions related to these issues were listed under the title of ‘Economic-Base and Employment Opportunities’. In addition, residents might have found housing expensive in these new towns. Besides,

some pictures, in one of the Ahram newspaper reports in Egypt, had demonstrated the bad physical conditions and appearance of the buildings in some of those new towns (Moragi, 2000, report in Ahram News). Therefore, the third hypothesis was that the new town's residents might be unhappy with their dwellings. This perhaps due to problems existing in their dwellings' physical conditions, appearance from the outside, or the dwelling design and characteristics from the inside, as well as the monthly payment. Thus, several questions were listed in the questionnaire under the title of 'Type and mix of Housing' investigating these issues.

Previous studies had also referred to "the inadequacies in the public transportation system of the new towns and residents are experiencing a feeling of isolation or homesick" (Stewart, 1996, p.475). Therefore, The fourth and fifth hypotheses were that, as these new towns are built on virgin lands away from inhabitant cities, therefore, perhaps residents are finding difficulties to be connected to major cities where their relatives and friends lived and also they might be unsatisfied with transport facilities and public means of transportation inside the town and are feeling isolated in their social environment. Thus, several questions related to transportation issues were listed under the title of 'Provision of Transport Infrastructure'. And also other questions were listed under the title of 'Social Mix and Environment Characteristics' assuming that transportation difficulties might lead residents to feel social isolation and disability to create relations in the new town.

At the end of the questionnaire, the researcher tries to frame, in a few questions, the major reason among the previous assumption for each respondent intending to move out of the town. Although, there are other assumptions as well related to the funding

system and the management of the implementation process in these town, but those issues were investigated through officers in the councils and the Ministry not through the residents of the town. Thus, the researcher had listed what should be measured in categories that make sense, then attempted to find the set of questions needed to create measures of the variables.

Types of questions vary with the type of the sample i.e. you can ask experts quite complex questions but you can only ask ordinary residents simple questions in terms that they will understand. Fowler (1993) argues that,

“Designing a question for a survey instrument is designing a measure not a conversational inquiry....Good questionnaires maximize the relationship between the answers recorded and what the researcher is trying to measure”.

(Fowler, 1993, p.69)

Usually in survey questions there are open ended or closed questions. Within the closed questions category there are questions which generate a dichotomous response, multi-choice questions and those that require scaling techniques (Burton, 2000, p.337-338). In the social questionnaire of this research, different types of questions were used. Some were of the simplest type of questions which generates a dichotomous response that admits answers such as Yes or No, for example, question 10 in Appendix 1:

“Do you work in this town or you work elsewhere?”

This town ☐ Elsewhere ☐

The other question type used is the multi-choice questions, where several alternative responses are listed and the respondent is asked to make a selection from those provided, for example, question 9 in Appendix 1:

“To which of the following groups do you belong, according to your current job?”

Professional/Management	<input type="checkbox"/>
Skilled Labour	<input type="checkbox"/>
Unskilled Labour	<input type="checkbox"/>
Salesman	<input type="checkbox"/>
Self-employed	<input type="checkbox"/>
Others (please specify)	<input type="checkbox"/>

Also there were questions using scaling techniques, those questions require the respondents to choose a response from a scale, for example, question 13 in Appendix 1:

“To what extent are you satisfied with health services in this town?”

	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Hospital					
Emergency units					
Clinics					
Pharmacies					

In addition, the questionnaire survey included few open-ended questions which provide a response format that gives respondents the freedom to provide any answer which they care to make, for example question 28 in Appendix 1, which is the last question in the social survey:

“If you have any further comments to make about the new town or further ideas about how we can improve it, please tell us in the space below?”

After, these sets of questions were put in a form in a way that makes the task of the interviewer and the respondent as easy as possible. The questionnaire was prepared in Arabic language firstly (Appendix 2) and then translated into English (Appendix1) to be discussed by the researcher supervisors. Afterwards, modifications were made into the Arabic version, which was then checked by one of the supervisors who speaks the Arabic language and was ready to be used in Egypt, where people speak the Arabic language. In Egypt, a pre-testing was done to the questionnaire, among 3 residents of Greater Cairo who were previously known to the researcher, to check whether or not the questions were clear and if there were any problems in understanding what kind of

answers were expected. In consequence, a small number of minor adjustments were made.

However, the structured questionnaire is more geared towards quantitative data as “it gives exactly the same context of questioning and each respondent receives exactly the same interview stimulus as any other” (Bryman, 2001, p.107). Some researchers such as Denzin (1970) prefer open-ended interviews over prescheduled standardized interviews for three reasons: “

- 1-It allows respondents to use their unique ways of defining the world.
- 2-It assumes that no fixed sequence of questions is suitable to all respondents.
- 3-It allows respondents to raise important issues not contained in the schedules”.

(Denzin, 1970, p.125)

Therefore, I thought of doing focus group meetings with residents living in these case studies.

Focus Groups (FG):

This type of interviews is undertaken with a small sample of residents in order to explore selected issues more deeply, as respondents are interviewed together for a short period of time, an hour for example, and questions asked are of an open-ended type where “the researcher would be interested in how people respond to each other’s views and build up a view out of the interaction that takes place within the group” (Bryman, 2001, p.336). Morgan (1998) suggested that the typical group size is between six to ten members and actually it has been decided to ask more than 10 persons to come to each meeting assuming that some of who agreed to participate would not turn up on the day of the meeting. It was decided to have one focus group meeting in each town in order to invite the residents to discuss the problems of their town and their life experience in a

more holistic and comprehensive manner than could be achieved through the structural questionnaire.

The next step was to start selecting participants, baring in mind that the group should represent people of different gender, educational level, and also occupation group even housewives for example. It was not easy to do that, as the decision of whom to invite was into consideration while doing the structured questionnaire. Small invitation cards were prepared for the focus group meeting with the following information written on them: the place, the date and time, and briefly the subject of discussion. They were kept in the researcher bag, and after finishing each interview with a new respondent and having the feel that he or she were really interested and could have something to say in the meeting about the town, then they would be invited, and kept doing that until reaching the required number for each focus group meeting.

The meetings were held in different places. In the Tenth of Ramadan, it was in a public cafeteria in the centre of the town itself; whereas in Badr and Zayed towns, my friends there had personal relationships with two of the families living there, and they were so kind and helpful in offering to have the meeting at their dwellings in the new towns. Although those meetings were of open-ended questions and discussion, still some important topics for discussion were to be prepared as a basis for the conversation. It was important to make the respondents feel as if they were in an ordinary visit or meeting with friends talking freely, assuring them that no name would be mentioned in the report of the discussion.

Interviews	Tenth of Ramadan Town	Badr Town	Sh. Zayed Town
EI	-One with planning engineer in the council. -One with financial affairs manager in the council.	-One with planning engineer in the council. -One with financial affairs manager in the council.	-Interviews with two planning engineers in the council.
SQS	72 questionnaire -8% of it with upper-middle income dwellings' occupiers. -10% with low-income level dwellings' occupiers. -72% with middle-income level dwellings' occupiers. -10% with upper-income level dwellings' occupiers.	57 questionnaire -8% of it with it with upper-middle income dwellings' occupiers. -52% with low-income level dwellings' occupiers. -40% with middle-income level dwellings' occupiers.	63 questionnaire -33% of it with upper-middle income dwellings' occupiers. -16% with low-income level dwellings' occupiers. -48% with middle-income level dwellings' occupiers. -3% with upper-income level dwellings' occupiers.
FG	Group of 10 persons	Group of 6 persons	Group of 7 persons

Table 6.3: Different Types of Interviews in the Three Case Studies.

Source: By the Researcher, 2002.

During the discussion, some notes were made on the main points that could enrich the research. The meetings lasted for about one hour to an hour and a half and were useful. After the end of each meeting was over, notes made during the group meeting discussions were to be reviewed and written down in more details, in addition to other ideas recorded during the conversation. That was so that a comparison between them and the answers of the structured questionnaire could be drawn, searching for any new points and ideas that did not come to the researcher mind while arranging the questions of the structured questionnaire and that would be useful for the investigation.

5.2.3 Observations and Visual materials (Photographs)

Observation evidence is often useful in providing additional information about the topic being studied. It adds new dimensions for understanding either the context or the

phenomenon being studied. Observing has to go through a series of steps: begin with selecting the site to observe, obtain the required permission for access to the site, identify who or what to observe, record notes including descriptive and reflective notes (Creswell, 1994). Basically, by doing the field visit to each town site the opportunity for direct observation is created. Already such observation had been made throughout the field visits among questions collection. For example, observing the condition of the buildings, which indicates something about management, maintenance, finance and the general environment of the town. Similarly the internal conditions of the respondents' dwellings are an indicator of the status of the respondent within the town. Photographs are the main means for transferring the researcher points and observations to others. Further, they give opportunity to explore more notes about the site or view in the picture. Therefore, several pictures were taken for each town of the case studies exploring in some of them weak points and in others strong points on different issues in the three towns.

6.3 Data Analysis

Some of the data collected from the social survey is of a qualitative nature and other data is of quantitative nature, therefore they are analyzed using different standard quantitative and qualitative analytical techniques. These techniques used are:

6.3.1 The 'SPSS for Windows': a computer (software) analyzing programme usually used in analyzing quantitative data which is appropriate for a statistical test such as the new towns' residents questionnaire. This method is determined by the variable under test where each respondent's answers are classified in one row in a data

table and after recording all questionnaire answers of each town in the table, these answers are treated by the 'SPSS' programme statistical functions and the results of the analysis are presented in three ways (explored in chapters 7, 8, and 9):

1.The bar graphs: This is the simplest one, as individual variables are counted showing their frequency, to display certain information, for example, answers to questions such as 'Do you own a car or not?' The findings presented in bar charts that allow for easy comparison.

2.Frequency tables: These provide the number or percentage of people belonging to each of the categories for the variable in question such as answers of satisfaction and dissatisfaction questions (classified in very satisfied-satisfied-neutral-dissatisfied-very dissatisfied). Their chief advantage is that they are relatively easy to interpret and understand.

3.Cross-tabulations: This type of analysis is used to find out certain links between some variables from the questionnaire findings, which may have a relationship between each other and consequently affect each other, for example, the relationship between 'intention of staying in the town' and the 'availability of job-opportunities in the town'.

The crosstabulation is accompanied by a chi-square test. The purpose of a chi-square test of independence is to determine whether the observed values for the cells deviate significantly from the corresponding expected values for those cells. If there is a large discrepancy between the observed values and the expected values, the chi-square statistic would be large, suggesting a significant difference between observed and expected values. Along with this statistic, a probability value is computed, with $P < 0.05$, it is commonly accepted that the observed values differ significantly from the expected values and that the two variables are not independent of each other (George and Mallery, 2003, p106-107).

The value of (P) could be discussed as well, the more it is smaller, the stronger is the dependency between the variables examined, for instance, if $P = 0.01$ the correlation is significant at 0.01 level, this means that the probability or level of error in the results is 1 in 100 only, so the relation between the variables is strong 99%; but if $P = 0.05$ or above so the probability of error is 5 in 100 which is not accepted any more for a strong relation between variables (Bryman, 2001, p.227-234). An important notice as well here is about the value of the expected count cells. The chi-square test is only valid for minimum expected cell values of five. However, the chi-square value is largely dependent on the number of dimension and sample size (George and Mallery, 2003, p107).

Sample Error

All results of the survey in chapters 7,8 and 9 are subject to sampling error. It is an error, which arises because the data are collected from a part, rather than the whole of the population. It refers to the difference between the estimate derived from a sample survey and the 'true' value that would result if a census of the whole population were taken under the same condition. "It is the potential for error that comes from the fact of sampling rather than collecting information about every individual in a population" (Fowler, 1993,p.28). Sample error can be calculated for simple random samples using the following formula:

$$SE = 1.96 \times \sqrt{\frac{P(100-P)}{N}}$$

SE: Sampling Error

P: Proportion of Respondents

N: Sample Size

1.96: Refers to the 95% confidence limit commonly employed by social scientists.

The value of SE is presented as $\pm X \%$. This means that the survey answer is accurate to within plus or minus $X \%$ (at the 95% confidence level). Thus, the real population figure lies in the range defined by \pm number indicated. The absolute size of the sampling error is greatest around proportions of .5, which is 50% and decreases when a sample having a characteristic approaches either zero or 100% (Fowler, 1993,p.30). Stratification might reduce the sampling errors. . However, it is important to know that increasing sample size always reduces sampling error (Babbie, 1995, p.210).

6.3.2 The ‘GIS’ (Geographical Information System): GIS was used in this research for documentary information analysis. This kind of programme deals more with maps and information related to it and is basically beneficial for site critics and also as a guider for the an evaluation of suitable site-selection for locating those new towns. Basically, the programme is concerned with maps and master plans information such as (land-use, transportation, geography, density, etc.). The GIS is defined as a “computer-based system for the management and analysis of spatial data” (Couclelis, 1991, p.14). Information stored in GIS is tied to x, y coordinates and a table of attributes is related to each theme appearing in the map. Then this information together can be manipulated and analyzed with the functions of GIS as this programme has analytical functions. The GIS capabilities cannot meet all planning information needs but it could be said that GIS is more relevant for strategic planning. It cannot make decisions in planning but it can support ‘making decisions’ for planners. GIS can meet only part of the spatial information requirements of planning. It can bring together statistical and graphic packages and help planners to do some of the same old things but a lot faster and fancier. It enables the planner to see many layers and the data of a project all together at the same time instead of falling into confusion, which happens

when a planner has to study many plans and information on many papers to get his results in planning decisions.

Basically, GIS has four basic analytical functions:

- 1-Maintenance and analysis of spatial data.
- 2-Maintenance and analysis of attribute data.
- 3-Integrated spatial/ attribute data analysis.
- 4-Output functions.

(Aronoff, 1989; Couclelis, 1991, p.14)

The third function is the most relevant and used in urban planning as GIS deals with maps and data and is an integrating programme of spatial and statistical data together.

Batty (2002) stated that,

“GIS represents geography and space with extensions to embrace a variety of spatial statistics and related functions, which enable the analyst and modeler to obtain predictive analysis”.

(Batty, 2002, p.157)

Actually, the appearance of GIS in urban planning had taken place very recently in the 1990s, as perspectives on urban planning has changed with the view of what cities are all about. In the 1900s urban planning was viewed as large-scale architecture drawn by famous artists. Later and around the middle of the last century (the 1930s to 1960s) the focus shifted to engineering as many planners working in planning companies had to have a degree in civil and transportation engineering. After and during the 1970s and 1980s planning had a sociopolitical view. The new city appeared as a complex of very diverse interest groups often with conflicting demands and perspectives. In the 1990s till now, science and technology in planning has moved in, especially computer programmes and here the GIS has started its work in integrating architecture and

engineering works (maps and spatial data) with the social and political works (statistical data). The planner now has to put in his consideration many things together such as information about the legal framework of planning fiscal matters, local and regional politics, socio-economic, and demographic trends, environment, geology and topography and so on.

As mentioned before, the GIS enables the planner to read many layers together at once and manipulates them by analyzing and criticizing. In this research study, the GIS was used in the analyzing process of the investigation, basically in criticizing the location of the new 17 towns in Egypt and finding out the alternative suitable locations for any new developments there. There were many maps and separate data and the researcher had to work on merging them using the GIS programme applications to get several basic projects to use them in the analysis. The maps had covered areas such as topography, land-use, transportation, existing major cities location, etc and statistical data related to each. Firstly it was important to study them one by one in accordance to the location of the existing 17 new towns and after, they were to be put all together in one project to use the applications of the GIS programme in finding out the suitable locations for new towns (explored more in chapter 10) where they were supposed to be built or even as suggestions for future plans if the government decided to build more new towns.

6.4.3 The Researcher: His/her personal logical mind analysis particularly for analyzing qualitative data obtained through recorded observations, personal interviews, focus group meetings, photographs and documentary information, that are included within the text of the thesis are appropriate to illustrate and give deeper explanation to

quantitative analysis. In this research, all these sorts of data had to be connected logically to each other with the findings of the quantitative data as well, and bring them together in one chapter summarizing the three case study findings. After that, by going back, reviewing the planning theory literature and the previous experiences of developing new towns in other countries, a chapter of comparison and final results is created and conclusions as well as recommendations are drawn in order to reach the aim of the investigation, that of adding to existing theory of planning and implementing new towns in developing countries. Basically, being from the Middle-East area and speaking Arabic language has made the field survey easier for the researcher as a researcher. In addition, being a female was also a helpful factor particularly in the structured questionnaire. This is due to social traditions in the area.

The following chapters will illustrate more specific details about the three case studies chosen for the research investigation and what different data were found out. Then these data will be analyzed and consequently the results and findings will be pulled out of the whole research.

Chapter 7:

Tenth of Ramadan New Town (First Case Study)

7.0 Introduction

This chapter explores the first case study in the field survey, namely, the Tenth of Ramadan Town, which was the start of a series of planned new urban communities in the Egyptian new town's programme policy. It is planned as a new independent town around Cairo; presidential decree for the establishment of 10th of Ramadan Town was issued in 1977 by President Anwar Al-Sadat (Ministry of H.U.NUC, 1998, p.261). The town is 55 km from the centre of Cairo, 60 km from Ismailia, and 30 km from Belbis, which is one of the most heavily populated areas in the east Delta region (figure 7.1). The site of the town is on a plateau sloping gently to the north. Elevations above sea level range between +110m in the south to +85m in the north over a distance of about 16 km. The strategic position of the town is that it is situated in an area among the Greater Cairo region, the Suez region and the East Delta region (Ministry of H.U.NUC, 1993, p.4).

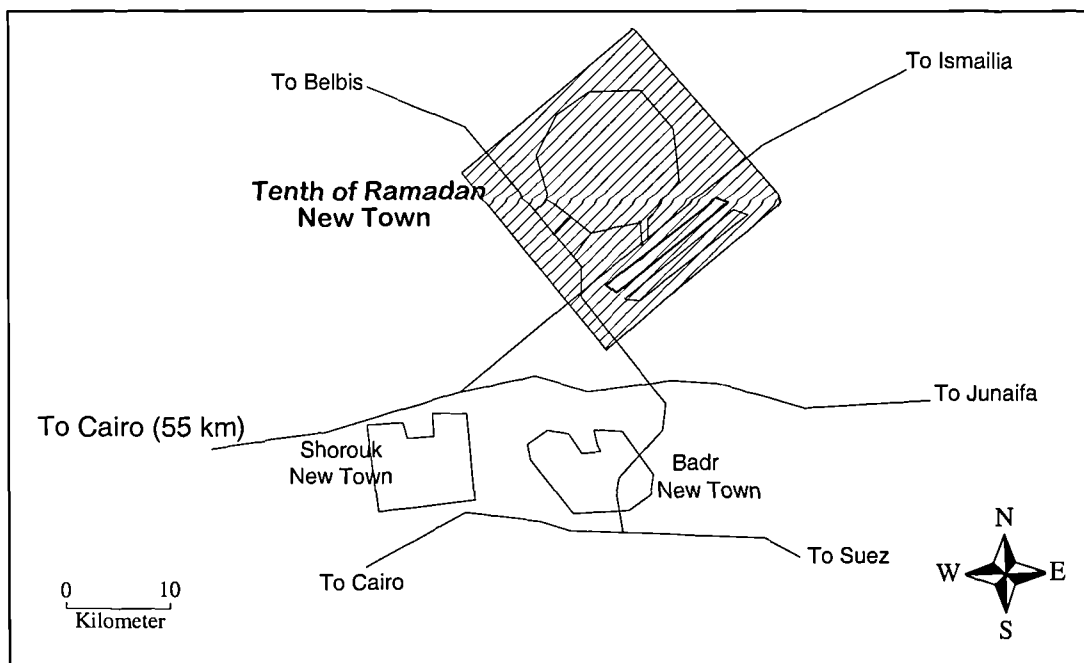


Figure 7.1: Site Location of Tenth of Ramadan Town.

Source: Ministry of H.U.NUC, 2000b, p.48.

Efforts to create the Tenth of Ramadan had been in progress since 1974. The Master Plan was initiated in 1976 and detailed plans for the first stage were drawn up in 1977, with construction starting in 1978. Two bodies had played a vital role in preparing the master plan of the town: the SWECO* company which started the work, and the Ministry of H.U.NUC (Housing, Utilities, and New Urban Communities) which completed it. Master plans and initial stages in the implementation process of the town's stage one particularly were carried out by SWECO company, but later in the late of 80s the government had decided to complete the work itself leaving industrial developments to private sector from the initial stages of construction (Hanan Akel, Manager of Planning and Research Studies in the Ministry of H.U.NUC in Egypt, 2002). The town was scheduled to be developed in four stages (figure 7.2) and completed in the year 2002. Each stage contained four residential districts, each of which could accommodate 30-40 thousand inhabitants and included 8-9 neighbourhoods. The first stage was based on the Government targets for growth of 150,000 inhabitants after 5 years; whereas the whole town was planned for future population of 500,000 inhabitants to be reached after 25 years (SWECO and Zeitoun, 1976, sec1.1). In fact, the investigation of the town as will be illustrated in this chapter, proved that this target was somehow over ambitious.

7.1 Aims and Planning Concepts of Tenth of Ramadan Town

The basic aims for the development of the Tenth of Ramadan Town outlined by the state were:

- To increase national and regional income.
- To relieve the population pressure on Cairo.

* SWECO is a Swedish consulting company in engineering, environmental management, architecture,

- To increase the industrial base of the country.
- To diversify and improve employment opportunities.

Therefore, on the one hand, the Tenth of Ramadan could be seen as an industrial project contributing to increasing national and regional income and to create new employment opportunities. On the other hand, the new town was designed to relieve the population pressure on Cairo (SWEEO, 1983, sec 2.1). Therefore, the development strategy of the town depended on the following concepts:

- 1- The town was planned to be independent and self-contained, including all services and economic activities, especially industry, in order to attract permanent residents from Delta and Cairo, which are the most highly populated areas in Egypt.
- 2- The selection of the new town site was in the desert land, on the Cairo/Ismailia desert road, to keep it far away from the existing cities and their expansions, especially Cairo, thereby to be in fact an independent town.
- 3- In terms of its regional role, this town should become the centre for industrial development providing the needs for industrial lands and provision of 60 thousand job-opportunities in the industrial sector.
- 4- The structural plan is to be divided into four stages. Each stage contains four districts, and is to be constructed successively until the new town reaches its 500,000 inhabitants, the population projected for the year 2002.
- 5- Equivalent spatial and quantitative distribution of services is required among all residential units levels in the town.
- 6- Attracting private sector for investment in the industrial sector in the town, providing a new environment for working, residence and entertainment (Tth OR T.C, 2000, p.3).

planning and pre-investment studies to integrated services in design and project implementation.

The total area of the town is 398 km², of which 94 km² (24%) is dedicated for built-up area and the rest is planned to be a green area (Ministry of H.U.NUC, 2000b p.50). This big green area is designed to reduce pollution caused by the industry in the town, but until now, these areas are still desert and only few parts of it are planted.

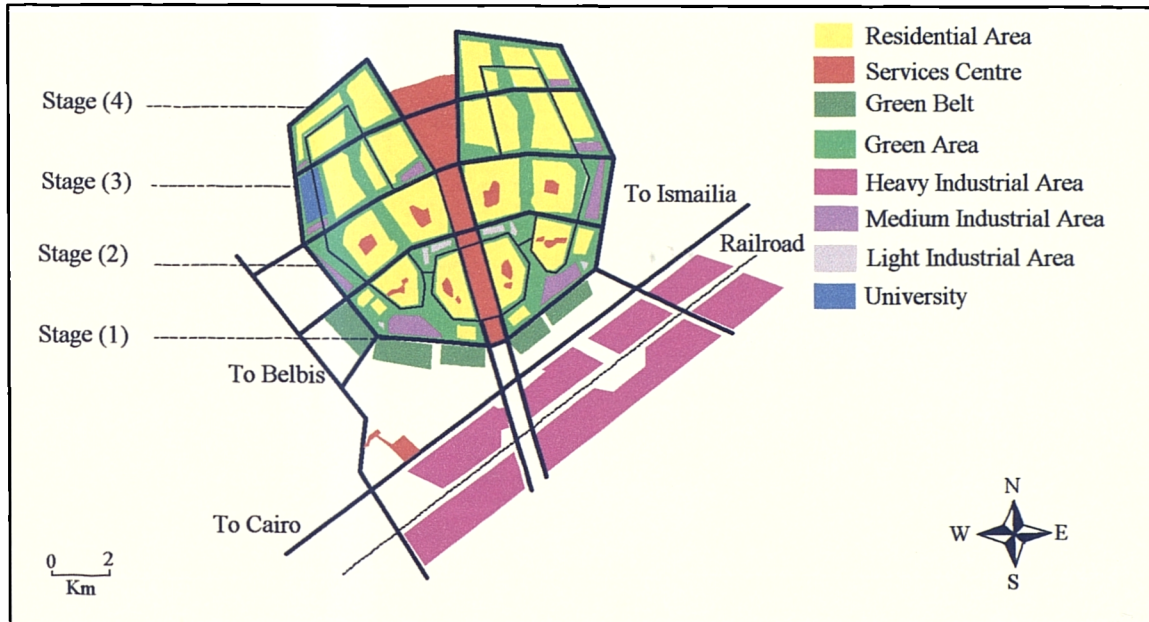


Figure 7.2: Tenth of Ramadan Town Master Plan (The four stages).

Source: NUCA 1996c, p.4.



Figure 7.3: General View of the Tenth of Ramadan Town.

Source: Tth OR. T.C, 2000, p.14.

The four stages that are shaping the town are perpendicular with a linear axis representing the main new town centre. Land-use of urban areas in the town is distributed in table (7.1) and the Master Plan of the town is displayed in figure (7.2).

Land Use	Area Km ²	% of Total Urban Area
Residential Area	33	35 %
Industrial Area	42	45 %
Commercial Area	5	5%
Public Service Area	14	15%
Total Built-up Area	94	100%

Table 7.1: Land-Use of Built-Up Area in the Tenth of Ramadan Town.

Source: M.H.U.NUC, 2000b, p.50.

7.2 Financing and Investment in the Tenth of Ramadan

It had been estimated that the capital invested in factories only had reached 10,804 million Egyptian pounds. About one million pounds also were spent on equipping 60 km² by utilities (water, sewerage, electricity, roads, etc.). For public services of educational, health and commercial buildings, about 80 million pounds were spent. Basically the government took the responsibility of financing main projects in the town, especially the infrastructure, utilities and some economic-level dwelling projects. It had, however, encouraged the private sector in developing complete residential areas, especially in the areas of upper-income group level, and also in investing in industry projects. The government exempted the private sector from paying taxes for the first ten years of investment in the new town industry projects. Further 24 million pounds were invested in the agriculture sector (Ministry of H.U.NUC, 2000b, p.49). Currently, the council is planning to invest industrial outcomes profits to complete development

projects planned in the town but still preparing a plan for this decision (Hanan Akel, 2002).

7.3 Tenth of Ramadan Components (Comparison between Target and Achievement)

The following paragraphs will draw a comparison between the components of the town as planned in the master plan and as performed in its actual or current situation. This comparison will be based upon documentary evidence, expert interviews and the results of the questionnaire survey of residents living in the new town. The comparison is summarized briefly in figure (7.4).

7.3.1 Population

The whole town is planned for a targeted population of 500,000 residents, to be reached gradually during the four construction stages. With regards to the first stage (1977-1987) population projected is 150,000 person; for the second stage (1980-1992) population projected is 140,000; for the third stage (1993-1997) it is 130,000; and for the last stage (1998-2002) population projected is 80,000; all together to be 500,000 inhabitants (SWECO and Zeitoun, 1976, sec.1.1). In fact, the population growth rate was growing very slowly in the beginning. In 1981 there were 1,200 residents only occupying the town, and in 1986, they increased to 8,500 residents (Ministry of H.U.NUC, 1989, p.120); whereas the town was expected for the same year to reach 150,000 inhabitants. Later in 1989, the number of residents went up to 13,500 and after that, the rate of population growth was improving as this number went up to 47,839 in

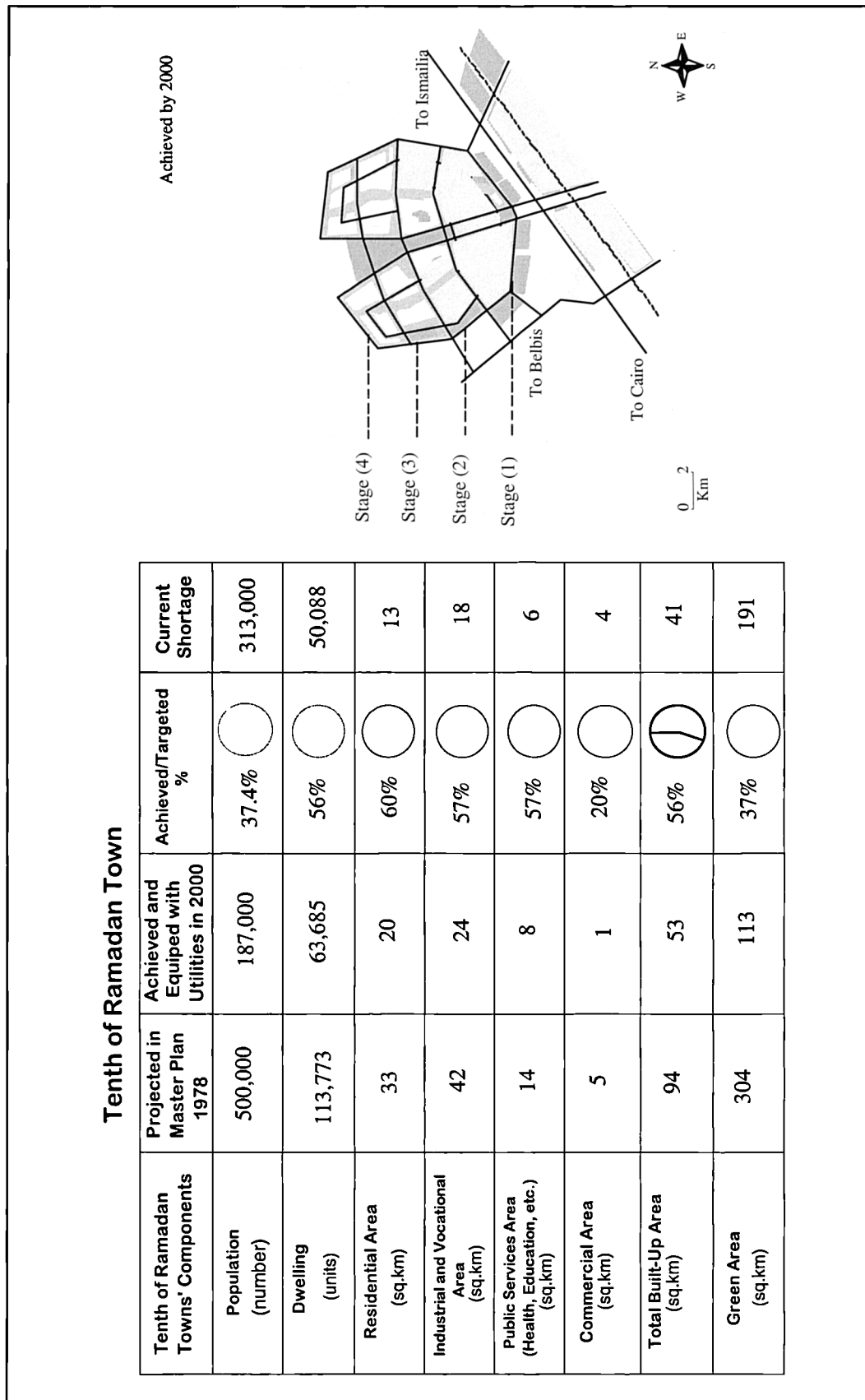


Figure 7.4: Comparison Study of Town's Components Between Target and Achievement.
Source: By Researcher based on SWECO, 1983; Ministry of H.U.NUC, 2000b; and Tth O R. Town Council, 2000.

1996 (CAPMAS, 1996b) reaching 187,000 residents* in 2000 (Tth OR.T.C, 2000, p.6). However, this number is not only of natural population growth in the town, but also of an increasing desire from many Egyptians in the 90s to escape from the polluted congested areas in Cairo to the only place found relatively ready at that time to occupy which is the 10th of Ramadan Town, where they could buy dwellings and enjoy the healthy environment there (Tth OR.T.C, 2000, p.7).

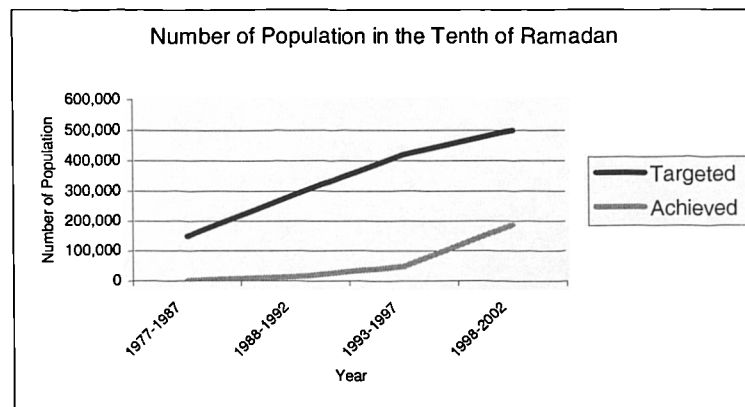


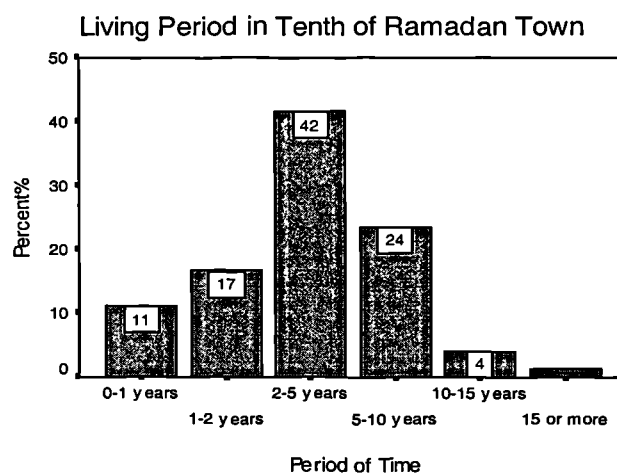
Figure 7.5: Comparison Between Population Targeted and Achieved.

Source: Based on Ministry of H.U.NUC, 1989, p.120; CAPMAS, 1996b; Tth OR.T.C, 2000, p.6).

This what also (figure 7.6) shows, it represents the result of the survey regarding the question of ‘How long have you been living in this town?’. It appears that the town had started to become active since nearly 6 to 7 years ago as 42% of residents have migrated to the town 2-5 years ago and 24% moved 5-10 years ago, whereas, 17% only had moved 1-2 years ago and only 11% less than one year ago. This sudden increase in the rate of population growth in the middle of the 1990s appears to have been based upon two factors: a) the economic boom period experienced by Egypt during the 1990s; b) the natural increase in the first generation that occupied the town have had children born during their stay in the town. Figure (7.6) however, showed that 2 years ago

* Further evidence about number of population is in R.C.GCR, 1999, p.3; Sutton and Fahmi, 2000, p. 143.

growth rate had decreased in comparison to the period 2-5 years and 5-10 years ago. Probably this could be attributed to the fact that Tenth of Ramadan was the first new town to be built in the new towns programme policy in Egypt, and so at that time it was the only direction for residents chasing dwelling units or jobs to move to. Recently many new towns appeared in Egypt thereby sharing in absorbing population growth and are nearer to Cairo from Tenth of Ramadan, therefore, the percentage of people migrating to it had decreased.



* 1-2 years means that from 1 year to less than 2 and so on for the other periods.

Figure 7.6: Respondent's Living Period in the Tenth of Ramadan Town.
Source: Field Survey Questionnaire, 2002.

7.3.2 Housing

The size of areas in the town planned for residential land-use forms 33 km² (35%) in the master plan. This includes lands belonging to public sector represented by the NUCA (New Urban Communities Authority institutions) which are in fact responsible for developing dwelling units of the low-income group level and middle-income group level. There are lands belonging to the private sector represented by private companies, consortiums or individuals who had taken the responsibility for the development of

upper-middle income groups dwelling besides villas. This responsibility however, had recently transferred to them, as development of these two groups was also under the responsibility of the public sector in the beginning. In the master plan 113,773 dwelling units of different levels were planned to be constructed in the new town of which 5% were for upper-income groups, 20% for upper-middle income groups, 25% for middle-income groups and 50% for low-income groups (Ministry of H.U.NUC, 1993, p.15). These statistics are determined according to government statistics about inhabitants' housing trends. In the field survey questionnaire, the sample was chosen from different dwellings types, but most of it from middle-income group dwellings as they form the highest percentage of buildings built in this town up till now.

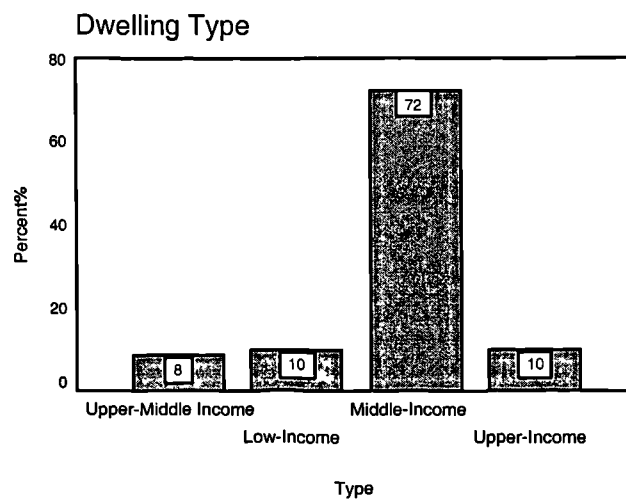


Figure 7.7: Percentages of Dwellings' Types Selected in the Tenth of Ramadan Survey.

Source: Field Survey Questionnaire, 2002.

In the master plan, each residential area is planned on the basis of neighbourhood units (figure 7.8), and according to year 2000 statistics nearly 60% of what was planned for residential area has been performed. There are 63,685 dwelling units of different levels constructed in the town and this number represent 56% of what was planned for dwellings. However, this number is satisfying what is required to the number of

residents living in the town now, and even there are many dwellings of upper-income group level constructed which are not occupied yet. Those are in stages 1 and 2 only, as development process had not started yet for the stages 3 and 4. In spite of that, this would not be satisfying what was targeted for the whole town 500,000 residents.

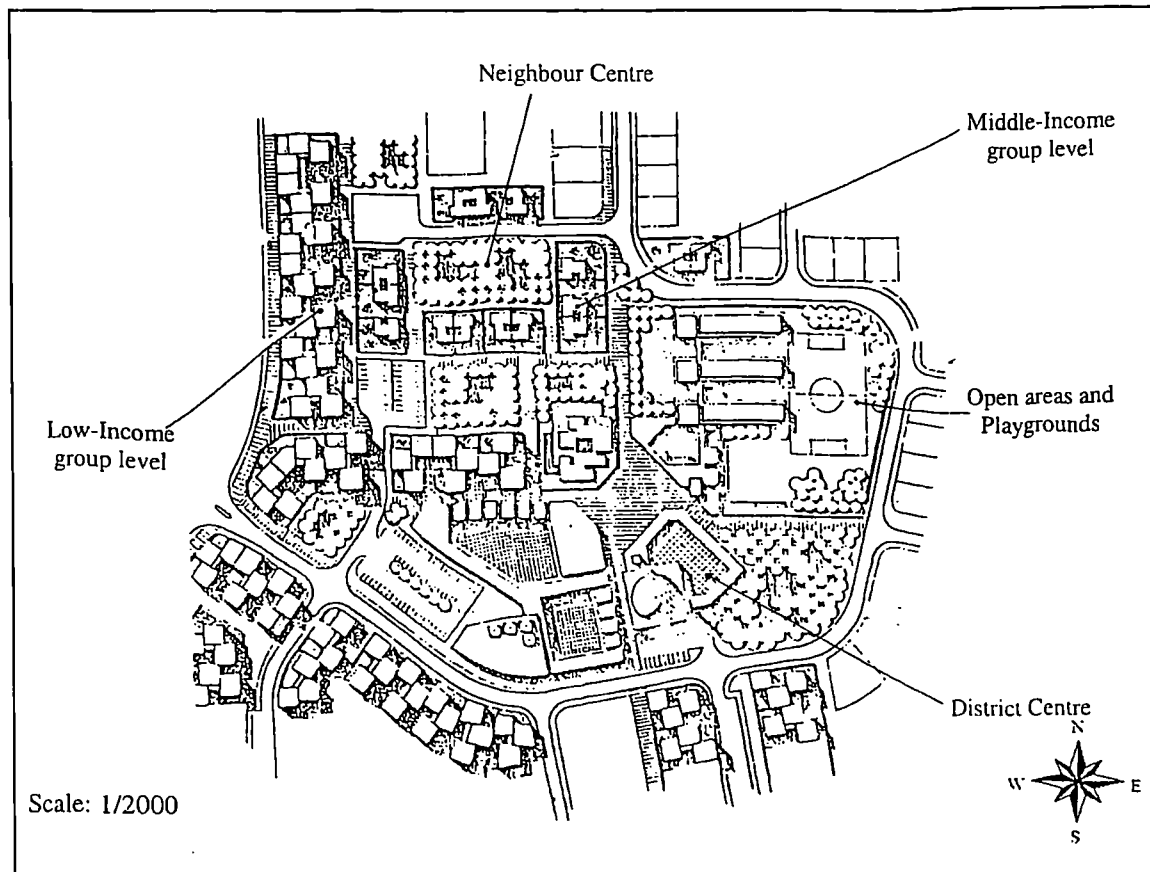


Figure 7.8: Plan of a Neighbourhood Unit in Tenth of Ramadan Town.

Source: SWECO and Zeitoun, 1976, sec 11.1.

On the other hand, however, only 25,000 units of low-income and middle-income group levels are available, which are suitable for workers in industrial sector of the town itself. As a matter of fact, this number is not satisfying those workers in the town (Eng. Iptisam Hamaza, planner in the Town Council) because firstly, most of these units were already committed for other people working outside the town; and secondly, because of the delay in the development process of these units. Thus, workers in the industrial sector of the town couldn't settle in and were forced to commute to town



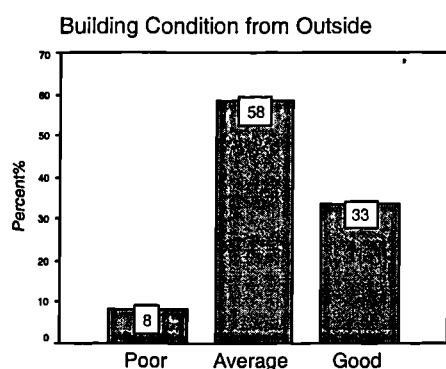
Figure 7.9: Low-Income Group Level Dwelling Buildings.
Source: Research Visit to Town, 2002.



Figure 7.10: Middle-Income Group Level Dwelling Buildings.
Source: Research Visit to Town, 2002.

every day from the places where they live and had got used to this. That caused more pressure on the transport network and facilities, and less demand for services in the new town. According to recent council report, it was estimated that current need for this level of units is not less than 54,000 dwelling units. This is in the case of housing only 48% of workers in the industrial factories in the town (Tth OR.T.C, 2000, p.13). Whereas, as mentioned earlier, dwellings of upper-middle income and upper income group levels are exceeding the demand and most of them are empty. This shows a gap in managing the implementation process and finance as well in the town, and that the dwellings are built without a plan that takes into consideration the demand changes, and consequently priorities in construction works.

A visual survey of the dwellings' physical condition was carried out at the beginning of the questionnaire survey. The results of the visual survey shows that most of buildings occupied and interviewed (58%) are in an average physical situation from outside, and (33%) are good. Somehow similar results were found for their physical condition from inside as well, dwellings are 53% in average situation and 39% in good state (figure 7.11). In addition figure (7.12) shows that 44% of dwellings have parking place available as most buildings in this town are designed with their own parking area.



Building condition from Outside	N		Mean	Sample Error
	Valid	Missing		
	Statistics	Statistics	Std. Error	
Poor	72	0	3.571E-02	±7%
Average	72	0	5.612E-02	±11%
Good	72	0	5.612E-02	±11%

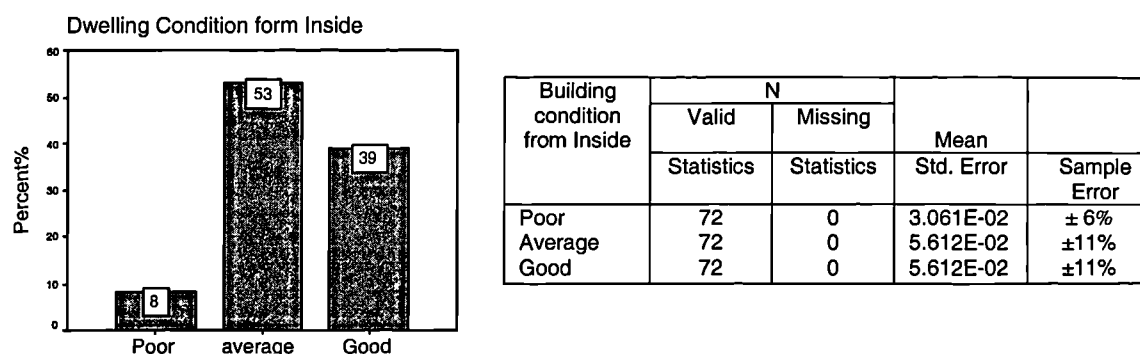


Figure 7.11: Physical Conditions of the Dwellings in the Tenth of Ramadan Town.
Source: Field Survey Questionnaire, 2002.

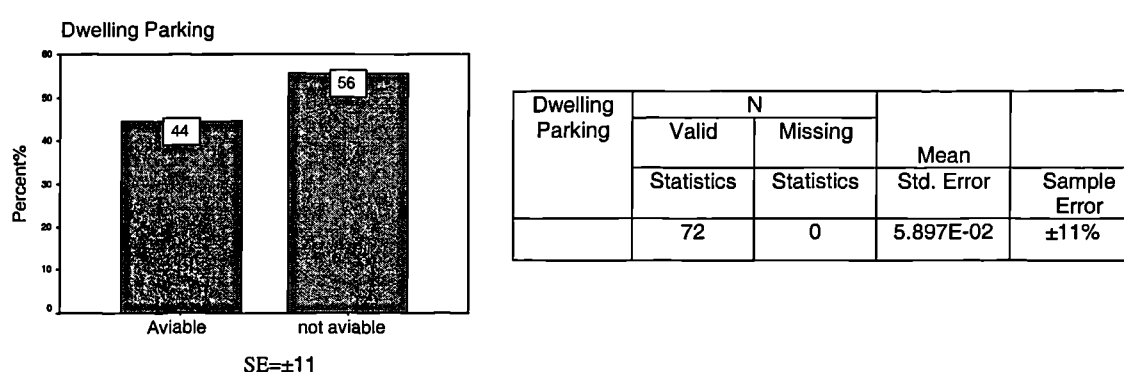


Figure 7.12: Dwelling's Parking in the Tenth of Ramadan Town.
Source: Field Survey Questionnaire, 2002.

According to the results of the questionnaire survey, the vast majority, 89% of respondents preferred their new dwellings to their previous homes as figure (7.13) shows, which is a good sign in addition to their attitudes towards the town. Some of the answers, of the residents who had chosen 'this dwelling is better' category, were due to the better physical conditions provided in dwellings and others are due to the more number of rooms available, whereas, the rest are because of sun and healthy air that enter their home in addition to the wide balconies provided to some dwellings in the town. On the other hand, however, residents who replied with 'previous dwelling is better', and are a very small percentage, some of them had bad physical conditions in their dwelling and others find their new home of less number of rooms than the previous dwelling they lived in before.

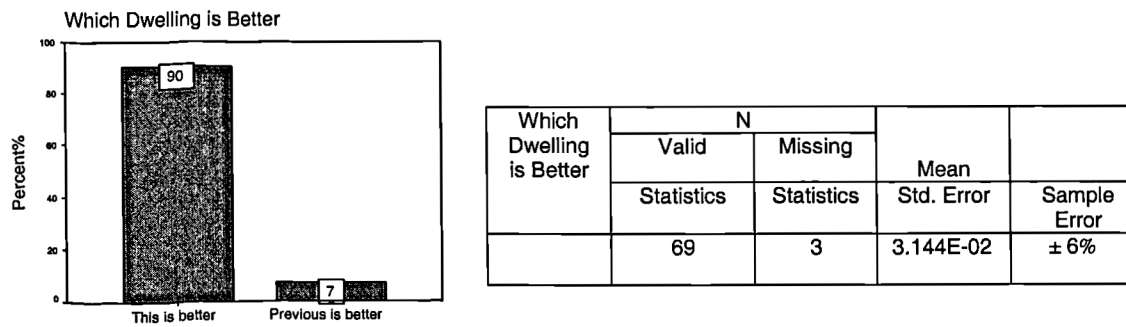


Figure 7.13: Respondents' Attitudes Towards their Dwelling in the Tenth of Ramadan.
Source: Field Survey Questionnaire, 2002.

It was also found that most respondents were satisfied with their home's characteristics, especially its suitability to their life style 94% and local environment 92%. The main complaints were about the number of rooms in their dwelling. However, answers categories are merged in figure (7.14) as: (very unsatisfactory & unsatisfactory) in one column 'poor' and (satisfactory & good & very good) in another column 'good'.

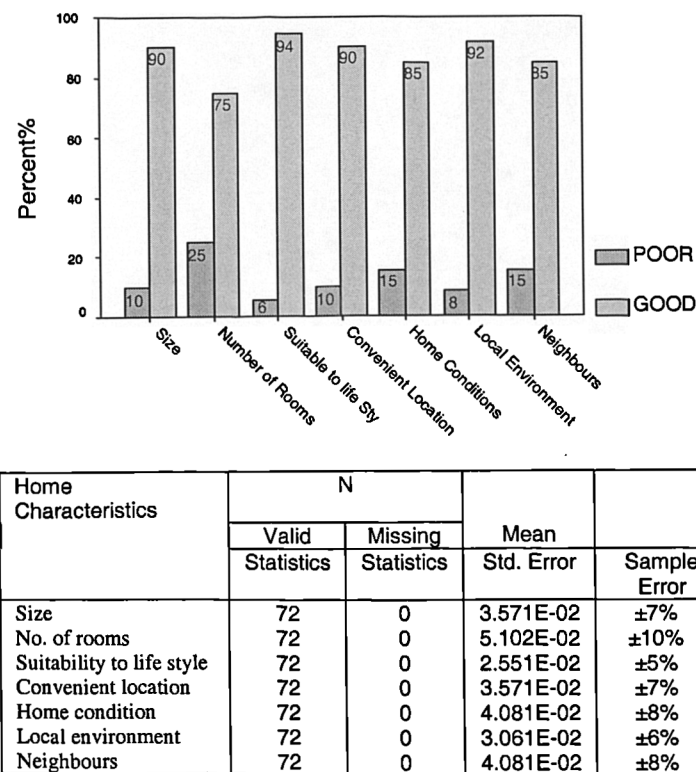
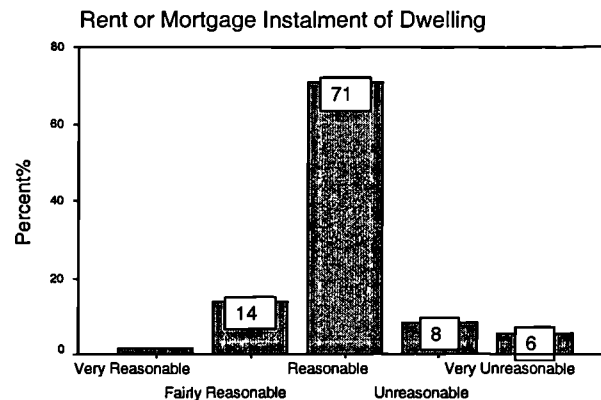


Figure 7.14: Satisfaction with Home Characteristics in the Tenth of Ramadan Town .
Source: Field Survey Questionnaire, 2002.

Most respondents 71% felt that the rent or price they were paying for their dwelling was reasonable, whereas only 14% felt that it was expensive, and that,

“They can have a dwelling with same characteristics in Cairo maybe little bit more higher price but at least more served with services facilities”
(Focus group, 2002)



Dwelling rent or mortgage Instalment	N		Mean	
	Valid	Missing		
	Statistics	Statistics	Std. Error	Sample Error
Very Reasonable	72	0	1.020E-02	± 2%
Fairly Reasonable	72	0	4.081E-02	± 8%
Reasonable	72	0	5.102E-02	±10%
Unreasonable	72	0	3.061E-02	± 6%
V. Unreasonable	72	0	2.551E-02	± 5%

Figure 7.15: Respondents' Attitudes Towards Dwellings' Price or Rent in the Town.
Source: Field Survey Questionnaire, 2002.

However, those are small proportion compared to others answered by 'reasonable' and 'very reasonable' (figure 7.15).

7.3.3 Industrial Area

In the Tenth of Ramadan Town, industry is the main economic base. The total area planned for industrial purposes was 42 km² divided into two areas, one for heavy industry located to the east of Cairo/ Ismailia desert road, and the other for medium and light industry situated to the west of the desert road near to the residential areas, to the south of it, to provide easy connection for workers between their jobs and their homes



Figure 7.16: Industrial Area in the Tenth of Ramadan Town.
Source: Ministry of H.U.NUC, 2000b, p.50.

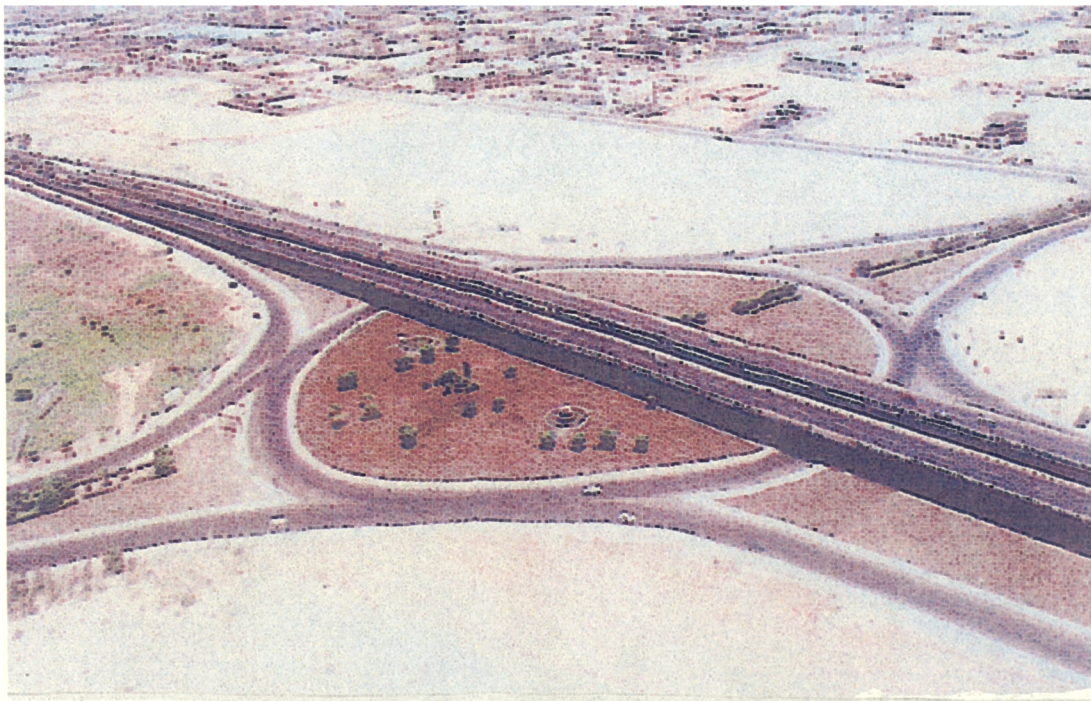


Figure 7.17: Cairo/Ismailia Road's Bridge on the Main Entrance of the Town.
Source: Ministry of H.U.NUC, 2000b, p.50.

(figure 7.2). Industrial area was planned to contain 1,420 factories of different purposes: food, plastic, textile, electrical, mechanical, chemical products, etc (M.U.U.NUC, 2000b, p.51).

So far, about half of the industrial areas had been developed (24 km²), and nearly 909 factories had been completed, particularly of medium and light industries and the total capital invested in these factories was 10,804 millions Egyptian pounds (Tth OR. T.C, 2000, p.15). These factories had provided many job-opportunities in the town, and demands on medium industrial areas now had exceeded those prepared in the master plan as lot of investors in medium industries are attracted to the area. This had led to the appearance of light as well as medium industrial factories in areas devoted for heavy industry or other purposes in the town .As Eng. Iptisam stated,

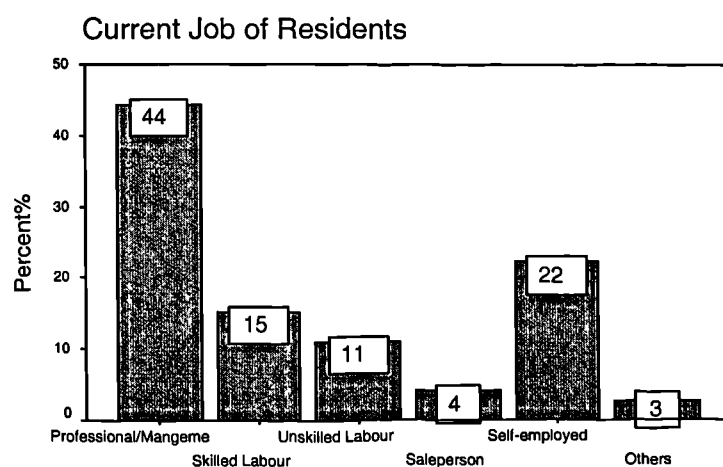
“There is an unplanned overgrowth in industry sector and a random interpenetration between areas of heavy industries and that of middle and light industry”.

(Interview with Eng. Iptisam Hamza, planner in Town Council)

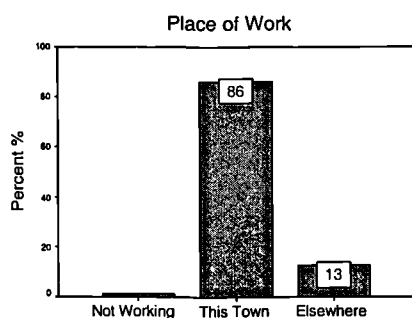
In fact, this uncontrolled industrial growth, together with the difficulty of getting dwelling units for workers in the industry sector, had increased the problem of traffic pressure because of daily workers commuting from other governorates, such as Ismailia and Sharkia, around the new town, and at the same time, caused less demand on services in the town itself and, consequently, caused a delay in developing more of these services as those workers, commuting every day, are depending on services that exist in places where they live in and come from.

7.3.4 Employment and Job-Opportunities

As industry covers a large area in the Tenth of Ramadan, 60,000 job-opportunities were planned to be provided by the industrial sector. This is in addition to administration, construction, commercial and other service sectors, which expected to provide further job-opportunities. According to census of 1998, the industrial sector had provided 116,000 job-opportunities in the town (Ministry of H.U.NUC, 2000b, p.49). This figure represents 192% of the predicted number for the targeted year 2002. It is astonishing because nearly half of the industrial area was not built yet, and, nearly double of the job-opportunities predicted were provided. It is probably an inaccurate prediction for the number of workers that planned factories would employ. This is, however, a good indicator of the economic success of the town. Clearly, not all of those workers live in the town itself; there are 70% of them commute daily from other places. In spite of that, most residents questioned were working in the town itself, in different sectors, as figure (7.18) shows 44% of residents are working in professional/management jobs, 26% are in labour group (skilled and unskilled) who work mainly in town's factories, there are also 22% self-employed which is considered as a high percentage in comparison.



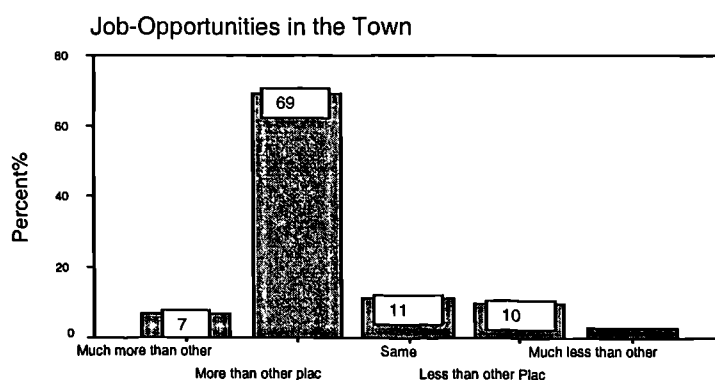
Job Type	N		Mean	
	Valid	Missing		
	Statistics	Statistics	Std. Error	Sample Error
Professional	72	0	5.612E-02	±11%
Skilled labours	72	0	4.081E-02	±8%
Unskilled labours	72	0	3.571E-02	±7%
Salesperson	72	0	2.295E-02	±4.5%
Self-employed	72	0	4.846E-02	±9.5%
Others	72	0	2.040E-02	±4%



Work Place	N		Mean	
	Valid	Missing		
	Statistics	Statistics	Std. Error	Sample Error
	72	0	4.222E-02	±8%

Figure 7.18: Respondents' Place and Type of Work in the Tenth of Ramadan Town.
Source: Field Survey Questionnaire, 2002.

The good thing in that, is the fact that most of these different categories are working in the town itself, about 86%, whereas, only 13% are working elsewhere. This indicates that one essential factor behind this town becoming relatively successful, is those job-opportunities available in different sectors to the majority of residents living in it. As 69% & 7% of respondents find job-opportunities 'much more' and 'more', available at the town than other places, 11% find that these opportunities are the same as in other places, and only few find them less than other places.



Job Opportunities	N		Mean	
	Valid	Missing		
	Statistics	Statistics	Std. Error	Sample Error
Much more than other places	72	0	3.006E-02	±6%
More than other places	72	0	5.450E-02	±11%
Same	72	0	3.687E-02	±7%
Less than other places	72	0	3.535E-02	±7%
Much less than other places	72	0	2.040E-02	±4%

Figure 7.19: Respondents' Opinions About the Availability of Job-Opportunities in the Tenth of Ramadan Town.

Source: Field Survey Questionnaire, 2002.

7.3.5 Commercial and Public Services

Basically, these services include- health, commerce, education and entertainment services that are distributed between the main town centre and districts' centres as well as neighborhoods' centres. It was planned that each neighborhood centre should contain a market, a primary school, two kindergartens, and a mosque. At the district level, the centre includes a secondary school, a police station, a health centre, a shopping centre, an administration centre, etc. The programme has also suggested the building of a university (figure 7.2) as an attractive point for settlement in the new town (SWECCO, 1983, sec. 3.2).

The total area planned in the master plan for commercial and public services is 17 km². In 2000 however, total areas were implemented and prepared with utilities for such purposes had reached 9 km² of the 17 km². This indicates that the constructed areas are nearly 53% of what was projected (Ministry of H.U.NUC, 2000b, p.50). Although these services, available now, are reasonable in proportion to the number of residents who occupied the town recently, but the distribution of these services is not the same in each neighbourhood, as some do not have services such as schools or health centres and depend totally on other neighborhoods in other districts in the town. This is in addition

to a small number of internal public transportation facilities and the difficulty residents face in getting to other neighborhoods without owning a car (Focus group meeting, 2002).

Actually, residents in the town had tried to bridge the gaps in some services in their own neighbourhoods by using parts of their dwelling especially those living in ground floor units diverting them into small shops for investment on the one hand and provide these services to the rest of residents in the areas they live in on the other hand, as Eng. Hanan mentioned that,

“In spite of perusing the illegal shops opened by residents as a part of their dwellings in ground floors but the council is not taking any serious action against them because council knows that there is no money to complete such services in places they are planned and actually the residents are in need of them”.

(Eng. Hanan Mostafa, manager of financial affairs in Town Council)

The Tenth of Ramadan was receiving a good amount of money in the beginning to implement different projects but recently it is not the same; therefore, many projects had not been completed in the town, residents are trying to overcome these needs by themselves in their own ways. Table (7.2) shows that they are happy with it, however they are more satisfied with the neighbourhood centres 91.7% than the main town centre 66.7%. It seems that these centres are providing at least important needs for residents in stage 1 and 2, but they do not exist at all in Stage 3 or 4 as the questionnaire sample had been chosen in occupied areas.

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Neighbourhood Centre	4.2% (SE±5%)	91.7% (SE±6%)		2.8% (SE±4%)	1.4% (SE±3%)
Town Shopping Centre	1.4% (SE±3%)	66.7% (SE±11%)	11.1% (SE±7%)	20.8% (SE±9%)	

Table 7.2: Satisfaction with Shopping Facilities in Tenth of Ramadan Town Survey.
Source: Field Survey Questionnaire, 2002.

Also respondents' satisfaction is acceptable with regard to health services as 91.7% are satisfied with hospital services. The hospital serves not only Tenth of Ramadan but also other towns in the region, such as Badr and Shorouk. As far as the emergency units are concerned, residents are satisfied by 56.9%, which is not a bad percentage, and 75% with clinics and 86.1% with pharmacies. Thus, health services generally are somehow satisfying.

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Hospital	2.8% (SE±4%)	91.7% (SE±6%)		2.8% (SE±4%)	2.8% (SE±4%)
Emergency Units		56.9% (SE±11%)	20.8% (SE±9%)	18.1% (SE±9%)	4.2% (SE±5%)
Clinics	4.2% (SE±5%)	75.0% (SE±10%)	13.9% (SE±8%)	6.9% (SE±6%)	
Pharmacies	6.9% (SE±6%)	86.1% (SE±8%)	2.8% (SE±4%)	4.2% (SE±5%)	

Table 7.3: Satisfaction with Health Services in Tenth of Ramadan Town Survey.
Source: Field Survey Questionnaire, 2002.

Satisfaction with the education services was also found to be good. However, kindergartens and primary schools are given a higher rating than elementary & secondary schools, and higher education institutions. It is important to mention here that in the master plan of the town there is a special area designed for a new university to be located in the third stage (part) of the town that is not built yet and development projects hadn't even started in the whole stage. Therefore, residents are waiting for this university to be built and opened and it would be an attracting point as well for people from surrounding regions to come and live in the town.

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Kindergarten	8.3% (SE±6%)	84.7% (SE±8%)	6.9% (SE±6%)		
Primary School	9.7% (SE±7%)	72.2% (SE±10%)	18.1% (SE±9%)		
Elem. & Secon. School	4.2% (SE±5%)	66.7% (SE±11%)	27.8% (SE±10%)	1.4% (SE±3%)	
High Edu. Institutions			18.1% (SE±9%)		81.9% (SE±9%)

Table 7.4: Satisfaction with Education Services in Tenth of Ramadan Town Survey.
Source: Field Survey Questionnaire, 2002.

In general, the care given to previous services in the town is not the same as that given to culture centers. It is nearly the same for entertainment centres and facilities as 73.6% are satisfied with these centres, 66.7% are very satisfied with parks and 51.4% are also very satisfied with sport clubs.

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Culture	2.8% (SE±4%)	62.5% (SE±11%)	19.4% (SE±9%)	11.1% (SE±7%)	4.2% (SE±5%)
Entertainment Centres	6.9% (SE±6%)	73.6% (SE±10%)	8.3% (SE±6%)	9.7% (SE±7%)	1.4% (SE±3%)
Parks	66.7% (SE±11%)	27.8% (SE±10%)		5.6% (SE±5%)	
Sport Clubs	51.4% (SE±11.5%)	38.9% (SE±11%)	5.6% (SE±5%)	4.2% (SE±5%)	

Table 7.5: Satisfaction with Cultural & Entertainment Services in Tenth of Ramadan Town Survey.
Source: Field Survey Questionnaire, 2002.

Residents are generally satisfied with the commercial as well as with the public services provided in the town. When residents were asked about what services in their opinion they felt were needed, in terms of support and supply, most of them replied by 'a need for more external means of transportation to be provided' and others required 'administration services' related to government offices and institutions; and others 'for health services facilities' because although there is a hospital but sometimes there is a

shortage of medical staff and are not always available at the hospital (Focus group meeting, 2002). There is a need for a good management and fund for this hospital to function better, as well as, good equipment for emergency units.

7.3.6 The Infrastructure

Roads and Transport Facilities:

In the early stages of developing the town, the main concern of the government was to make the new town accessible to both entrepreneur and workers, thus, the government spent lot of money on infrastructure in Tenth of Ramadan town. This was also to attract Egyptians, Arab, and foreign investors to it. The new town is connected to regional network through two main roads. The first one is the Cairo/Ismailia desert road, which has three accesses to the town and two bridges constructed on it to avoid traffic congestion caused by transportation serving industrial areas (figure 7.17). The other road is the Asher/Belbis road, which extends to the south to intersect with Cairo/Ismailia road in the 51km point from Cairo. This road has also three accesses leading to the first and second stages of the town. Two rush hours on this road- one in the morning and one in the evening that are work hours of factories, as workers come to town and go back to where they live in, such as Belbis or other surrounding governorates.

In the master plan, a metro network was to be constructed in addition to other different means of public transport communications, supposed to be provided in the town. In reality, the metro network is not constructed until now and pressure on the local and regional road networks has increased because of the growing number of workers commuting to the town daily. However, public transport facilities are, to an extent,

satisfying. There is a big 'bus and micro-bus' station in the centre that operates inside and outside the town to Cairo as well as to other regions around. In spite of that, it appears from figure (7.20) that nearly 50% of residents own cars and most of them about 40% use them to go to work, about 42% go to work by bus, and the remaining tiny percentage use other means.

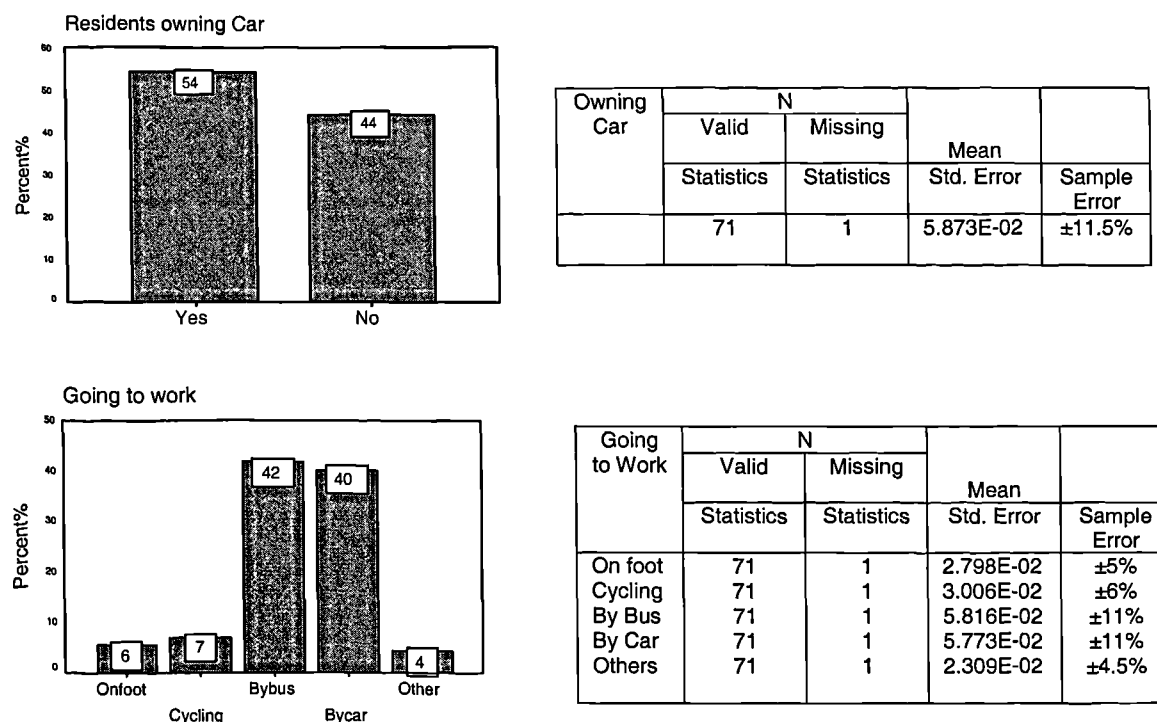


Figure 7.20: Means of Transportation of Respondents.
Source: Field Survey Questionnaire, 2002.

The town's internal transport network is to a reasonable extent acceptable (table 7.6). Nearly all respondents are satisfied with pedestrian facilities as well as with roads and highways. However, they are dissatisfied with Buses and micro-buses serving inside the town and with cycling facilities. Respondents' dissatisfaction was mainly due to the fact that bus-stops are far a bit from each other and so one should walk a long distance from his/her home to catch the bus, which is actually uncomfortable, and tiring, in addition, there isn't any kind of arrangement in the streets for cycling lanes.

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Pedestrian Facilities	11.1% (SE=±7)	88.9% (SE=±7)			
Cycling Facilities		59.7% (SE=±11)	11.1% (SE=±7)	11.1% (SE=±7)	18.1% (SE=±9)
Bus and Micro-bus	1.4% (SE=±3)	18.1% (SE=±9)	11.1% (SE=±7)	19.4% (SE=±9)	50.0% (SE=±11.5)
Highways System & Roads	34.7% (SE=±11)	63.9% (SE=±11)		1.4% (SE=±3)	

Table 7.6: Satisfaction with Internal Transport facilities in Tenth of Ramadan Survey.
Source: Field Survey questionnaire, 2002.

On the other hand, satisfaction towards external transport networks and means of transportation seem acceptable with regard to external roads and motorways as the town is well connected to regional network through two main roads. The first one is Cairo/Ismailia desert road with two bridges built on it at the entrances of the town, to avoid traffic congestion caused by vehicles serving industrial area. The other road is the Asher/Belbis road. Thus, external network is comprehensive and serving the town well. However, means of transportation which connect the town to other places around, through this network, still need sustaining as nearly all residents are not satisfied with the train or metro, which are supposed to be provided in the town, and also dissatisfied with buses. However, satisfaction with buses is better as 55.6% are satisfied with them. In fact, the respondents' dissatisfaction is due to the absence of the metro, and that buses stop in limited places in other towns. This means several changes of transport facilities, which make the trip tiring and complicated. Transport public facilities are still not up to the level required, but they are better than other new towns, as was stated,

“Residents are uncomfortable with the mix movement between large vehicles serving industry in the town and small vehicles of residents of the town on Cairo/Ismailia road, the road that is separating heavy industry from the whole town, this problem needs to be solved, in addition to that still there are some roads inside residential areas are not prepared or ready for using”.

(Focus Group, 2002)

	Very satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Roads and Motorways	22.2% (SE=±9.5)	77.8% (SE=±9.5)			
Trains				19.4% (SE=±9)	80.6% (SE=±9)
Buses	2.8% (SE=±4)	55.6% (SE=±11)	15.3% (SE=±8)	16.7% (SE=±9)	9.7% (SE=±7)

Table 7.7: Satisfaction with External Transport to Cairo in Tenth of Ramadan Survey.
Source: Field Survey Questionnaire, 2002.

Water Supply, Sanitary, Sewage and Solid Water States:

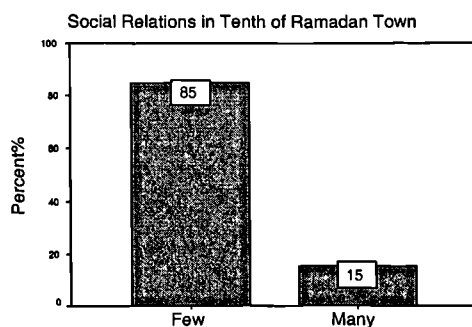
As far as the water supply is concerned, the town depends on two main sources. The first one is the surface water from Ismailia canal and the other source is the ground water adjacent to the town. Water is pumped from 24 artesian wells at the rate of 20,000 m³/day and a water purification station was constructed with power of 172,000 m³/day and this water is divided between Tenth of Ramadan, Badr and Shorouk towns. A new station was planned to be built with a capacity of 345,000 m³/day but still not constructed (R.C.GCR, 1999, p.4). The actual need of the town when its development is completed as planned in the master plan, is estimated at 416,000 m³/day. Therefore, there is a delay in water supply programme according to targeted year but, in reality, the water available now is satisfying the existing number of residents, and the government is using it in the construction of Badr and Shorouk new towns. For sinatra sewerage system, networks are constructed for this purpose and being used for the area of first and second stages of the town. Oxidation ponds are used for treating waste flows from the settlements, and special oxidation pond is used for treating heavy industry wastes (R.C.GCR, 1999, p.5).

Electrical Energy and Telecommunications:

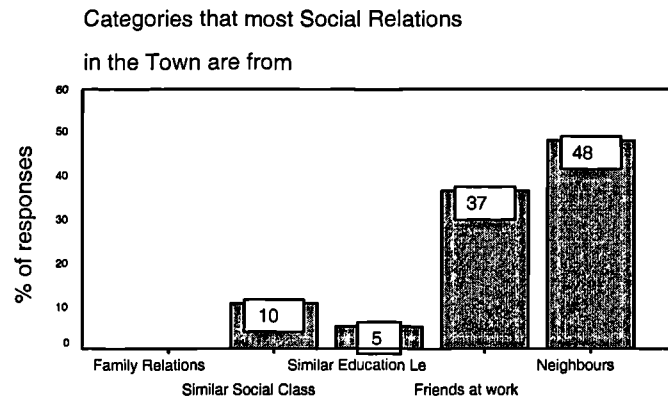
For electrical energy, the town depends on two sources. The first one is the main Asher power plant that is connected to the main network of the country. The other one is the high voltage network that consists of six power plants connected to each other and with the main power plant. This is in addition to Belbis new power plant. The town with its current situation uses only 69% of what is available, therefore, this electrical power will be used in developing the third and forth stages of the town (R.C.GCR, 1999, p.6).

7.3.7 Social Relations and Local Environment Characteristics

In this town, there is a mixture of people of different backgrounds living together. The majority are from middle-income group level, so most of them (48%) have some sort of relations in the town, at least with their neighbours. Few (15%), however, have many relations (figure 7.21). It is noticed in this graph that after 'relations with neighbours' comes 'relations with friends at work', especially the workers in the industry sector, and then relations between 'groups of similar social class'. Therefore, there is a balance in relations created in the town and it isn't chosen from one group category only.



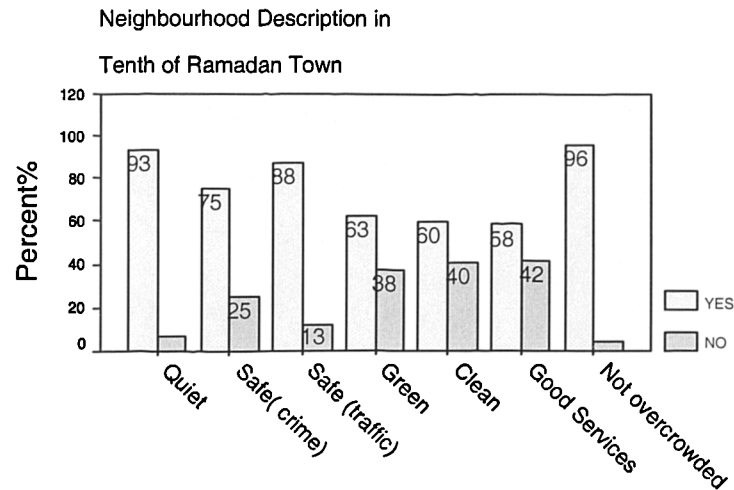
Social Relations	N		Mean	
	Valid	Missing		
	Statistics	Statistics	Std. Error	Sample Error
	72	0	4.270E-02	±8%



Categories of Social Relations	N		Mean	
	Valid	Missing		
	Statistics	Statistics	Std. Error	Sample Error
Similar Social Class	72	0	3.535E-02	±7%
Similar Edu. Level	72	0	2.568E-02	±5%
Friends at Work	72	0	5.689E-02	±11.5%
Neighbours	72	0	5.887E-02	±11.5%

Figure 7.21: Social Relations in the Tenth of Ramadan Town Survey.
Source: Field Survey Questionnaire, 2002.

Investigating the residents satisfaction and feeling in their neighbourhood, it was found that generally they are happy with it as 93% of them said that it is quiet, and 75% replied that it is safe with regard to crimes problems; 87.5% said that it is safe with regard to traffic; 95.8% find it not crowded. However, the percentage is less with regards to green places 62.5%; clean 59.7%; and having good services 58.3%. This is due to the fact that some areas investigated in the town lack services, and green areas were not planted and turned, consequently, to places for throwing rubbish. Generally, respondents are feeling comfortable in their neighbourhoods. Nevertheless, more support, maintenance and care are needed in green areas and services.

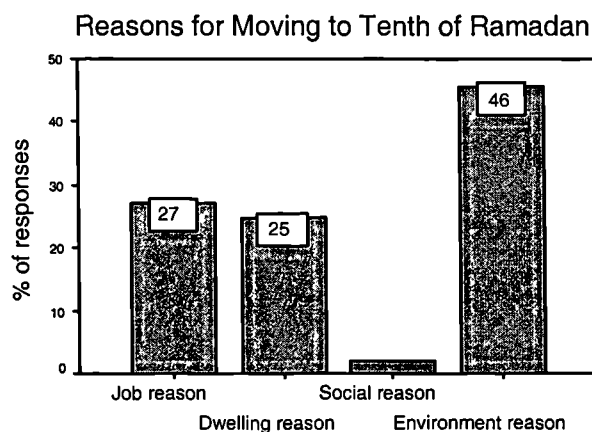


Neighbourhood Description	N		Mean	Sample Error
	Valid	Missing		
	Statistics	Statistics	Std. Error	
Quiet	72	0	3.017E-02	±6%
Safe (crime)	72	0	5.139E-02	±10%
Safe (traffic)	72	0	3.925E-02	±7.5%
Good Services	72	0	5.851E-02	±11%
Green	72	0	5.745E-02	±11%
Clean	72	0	5.821E-02	±11%
Not crowded	72	0	2.372E-02	±4.5%

Figure 7.22: Respondents' Attitudes to their Neighbourhood in the Tenth of Ramadan.
Source: Field Survey Questionnaire, 2002.

7.3.8 Intention of Staying in the Town

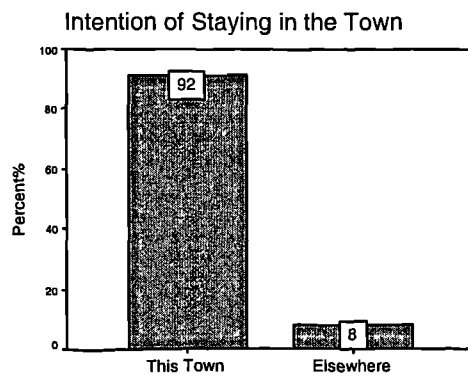
In the questionnaire survey, one of the initial first questions asked to residents was regarding the main reasons for coming to live in the new town. Most of them answered that this was due to environmental reasons 46% looking for healthy environment to live in and 27% of them for job reasons, mainly in the industrial sector where jobs are widely available; and 25% for dwelling reasons, searching for better quality of dwellings at lower rent or price to pay.



Reasons for Moving to Tenth of Ramadan	N		Mean	Sample Error
	Valid	Missing		
	Statistics	Statistics	Std. Error	
Job reason	72	0	5.232E-02	±10%
Dwelling reason	72	0	5.103E-02	±10%
Social reason	72	0	1.530E-02	±3%
Environment reason	72	0	5.873E-02	±11%

Figure 7.23: Respondents' Reasons for Coming to Live in Tenth of Ramadan Town.
Source: Field Survey Questionnaire, 2002.

On the other hand, figure (7.24) represents answers of the final question asked in the social survey regarding the respondents' reasons behind their intention to stay in or move away from the Tenth of Ramadan to another town or city. The figure shows that 92% are willing to stay and feeling happy in the town, whereas, only a tiny 8% are willing to move for different reasons. Some of these reasons are related to dwelling such as its size, location, number of rooms, etc; others to jobs, finding better opportunities elsewhere; and the rest for social reasons those missing their social life which they had enjoyed in their previous town and are not happy with the new atmosphere they are living in. However, the majority of respondents are happy and figure (7.24) reflects very good attitudes, which mean that those reasons behind moving to the town had proved their real effectiveness in the life of a new town.



Intention of Staying	N		Mean	Sample Error
	Valid	Missing		
	Statistics	Statistics	Std. Error	
	72	0	3.280E-02	±6%

Figure 7.24: Respondents' Intention of Staying or Leaving the Tenth of Ramadan Town.

Source: Field Survey Questionnaire, 2002.

7.4 Testing the Effect of Some Factors on Town's Life

Depending on the SPSS analysing programme, the following three tables test the relation between some factors that are picked from the focus group meeting discussion of the Tenth of Ramadan residents. These factors are probably affecting the town's life and consequently the intention of residents to settle down in the town, such as job-opportunities, healthy environment, etc. It was stated that:

"We feel comfortable in the Tenth of Ramadan town mainly because of the variety and availability of jobs. Dwellings also are comfortable from the inside and have a good appearance from the outside as well. Also, we enjoy the fresh air which you can not find in Cairo anymore, the capital is terribly polluted and unbearable".

(Focus group meeting, 2002)

The Relation between Intention of Staying and Jobs availability

The first relation tested is between the residents' intention of staying in the town and the availability of job-opportunities in different sectors, especially industry.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
JOBOPP * STAYING	72	100.0%	0	.0%	72	100.0%

Cross tabulation			Intention of Staying		Total
			This Town	Elsewhere	
Job-Opportunities	Much more than other places	Count	4	1	5
		Expected count	4.6	.4	50.5
	More than other places	Count	48	2	50
		Expected count	45.6	4.2	50.5
	Same	Count	7	1	8
		Expected count	7.3	.7	8.0
	Less than other places	Count	7	0	7
		Expected count	6.4	.6	7.0
	Much less than other places	Count	0	2	2
		Expected count	1.8	.2	2.0
Total		Count	66	6	72
		Expected count	66.0	6.0	72.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.9382 ^a	4	.0001
Likelihood Ratio	13.4776	4	.0092
Linear-by-Linear Association	4.1671	1	.0412
N of Valid Cases	72		

a. 7 cells (70.0%) have expected count less than 5. The minimum expected count is .17.

Table 7.8: Relation Between Jobs Availability and Intention of Staying in the Town.
Source: By Researcher, depending on the SPSS for Windows Programme Applications.

Preliminary observation indicates that, residents who found this town has 'more' and 'much more job-opportunities than other places' that form (48 & 4) in the crosstabulation, are those who had chosen to remain staying in the town. Although the cross tabulation shows indication of dependency between the two variables, and the value of (P) in the chi-square test is <0.05 , but actually the conclusion needs to be viewed cautiously because of the small expected frequencies. All expected counts should be greater than five, but actually there are 7 cells less than 5 in the cross tabulation, therefore, the overall chi-square value is less likely to be valid. However, in the table below (7.8-1) the researcher tried to combine some rows in the cross tabulation for the test to be carried out validly, but again 3 cells appeared in the table

less than 5; therefore the overall chi-square value is still doubted. This is actually due to an insufficient amount of data.

Cross tabulation			Intention of Staying		Total
			This Town	Elsewhere	
Job-Opportunities	More than other places	Count	52	3	55
		Expected count	50.4	4.6	55.0
	Same	Count	7	1	8
		Expected count	7.3	.7	8.0
	Less than other places	Count	7	2	9
		Expected count	8.3	.8	9.0
Total		Count	66	6	72
		Expected count	66.0	6.0	72.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.0512 ^a	2	.2175
Likelihood Ratio	2.4557	2	.2929
Linear-by-Linear Association	2.9942	1	.0836
N of Valid Cases	72		

a. 3 cells (50.0%) have expected count less than 5. The minimum expected count is .67.

Table 7.8-1: Relation Between Jobs Availability and Intention of Staying in the Town.
Source: By Researcher depending on the SPSS for Windows Programme Applications.

Combining one more row in the crosstabulation (table 7.8-2) had resulted with one expected count cell value (0.75) less than 5 (25%). The chi-square test is only valid for minimum expected cell values of five. Actually, there are two opinions regarding this point. George and Mallery (2003) argued that more than 25% of cells have an expected count value less than 5 makes the chi-square test less valid as was stated, “if the crosstabulation table included many low-count cells (more than 25% is one accepted criteria), the overall chi-square value is less likely to be valid” (George and Mallery, 2003, p.113). Whereas, Babbie and Halley (1994) argued that more than 20% of cells have expected count less than 5 makes the chi-square test less valid as was stated, “By convention, adjustments to chi-square should be made if more than 20% of the

expected cell frequencies are below 5”(Babbie and Halley, 1994, p.122). But actually the 25% seems less rigorous; therefore the overall chi-square value is still doubted.

Cross tabulation			Intention of Staying		Total
			This Town	Elsewhere	
Job-Opportunities	More than other places	Count	59	4	63
		Expected count	57.8	5.3	63.0
	Less than other places	Count	7	2	9
		Expected count	8.3	.8	9.0
Total		Count	66	6	72
		Expected count	66.0	6.0	72.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.597 ^b	1	.107		
Continuity Correction ^a	.935	1	.334		
Likelihood Ratio	1.974	1	.160		
Fisher's Exact Test				.160	.160
Linear-by-Linear Association	2.561	1	.110		
N of Valid Cases	72				

a. Computed only for a 2x2 table

b. 1 cells (25.0%) have expected count less than 5. The minimum expected count is .75.

Table 7.8-2: Relation Between Jobs Availability and Intention of Staying in the Town.
Source: By Researcher depending on the SPSS for Windows Programme Applications.

The Relation between Intention of Staying and the Healthy Environment

Table (7.9), shows another relation tested between the residents' intention of staying and the healthy environment 'No Pollution' in the town.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
NOPOLLU * STAYING	72	100.0%	0	.0%	72	100.0%

Cross tabulation			Intention of Staying		Total
			This Town	Elsewhere	
Moving to Town (No Pollution)	Not for this reason	Count	21	6	27
		Expected count	24.8	2.3	27.0
	For this reason	Count	45	0	45
		Expected count	41.3	3.8	45.0
Total		Count	66	6	72
		Expected count	66.0	6.0	72.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	10.9091 ^b	1	.0010		
Continuity Correction ^a	8.1939	1	.0042		
Likelihood Ratio	12.7002	1	.0004		
Fisher's Exact Test				.0019	.0019
Linear-by-Linear Association	10.7576	1	.0010		
N of Valid Cases	72				

a. Computed only for a 2x2 table

b. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 2.25.

Table 7.9: Relation Between Healthy Environment and Intention of Staying in the Town.

Source: By Researcher depending on the SPSS for Windows Programme Applications.

The table shows an indication of dependency, as 45 out of the 66 respondents who intended to stay in the town are those who moved to the town for a healthier environment, besides $P < 0.05$. But actually, 2 cells in the crosstabulation have expected count less than 5 and here there is no possibility of merging rows or columns; therefore, the validity of the results has to be interpreted cautiously and the chi-square test is less likely to be valid.

The Relation between Intention of Staying and Satisfaction with Dwellings

The third test is between the respondents' attitudes towards their dwellings in the new town and their intention of staying in it.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
WHIDWELL * STAYING	69	95.8%	3	4.2%	72	100.0%

Cross tabulation			Intention of Staying		Total
			This Town	Elsewhere	
Which Dwelling	This one better	Count	61	3	64
		Expected count	58.6	5.4	64.0
	Previous one better	Count	2	3	5
		Expected count	4.6	.4	5.0
Total		Count	63	6	69
		Expected count	63.0	6.0	69.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	17.87121 ^b	1	.00002		
Continuity Correction ^a	11.58343	1	.00067		
Likelihood Ratio	9.82174	1	.00172		
Fisher's Exact Test				.00356	.00356
Linear-by-Linear Association	17.61220	1	.00003		
N of Valid Cases	69				

a. Computed only for a 2x2 table

b. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .43.

Table 7.10: Relation Between Intention of Staying in the Town and its Dwellings.
Source: By Researcher depending on the SPSS for Windows Programme Applications.

The table (7.10) shows that the highest number (61) represents those residents who are comfortable in their new dwellings are also those who decided to stay in the town and not move from it. Although the chi-square test shows that the relation is significant at the probability level of $0.0001 < 0.05$ but, basically, there are 4 cells which have an expected count less than 5 and there is no possibility of merging rows or columns, so, the validity of the dependency between the two variables is not confirmed as well.

Nevertheless, the preliminary observation of the three tests indicates that the Tenth of Ramadan is in a good situation, particularly regarding the availability of jobs, the healthy green environment and dwellings which are playing an important role in keeping residents happy and willing to stay in the new town; but in fact, these relations are not confirmed statistically due the insufficient amount of data, and so this interpretation and conclusion in these circumstances is tempered by this limitation.

7.5 Conclusion

The town seems to be in an acceptable situation with regard to the different services, particularly the industrial developments, employment opportunities and public services; in addition to the relatively good external transport facilities. In comparison with other new towns, connections to surrounding areas and to Cairo are somehow good, despite the town's distant location. Services such as schools and commercial centres developed until now are satisfying, but cultural centres as well as health centres still need sustaining. Moreover, utilities and roads are in general not bad and satisfying according to the number of current residents, but internal transport facilities need to be increased. Furthermore, the need for a metro or rail network cannot be ignored, as it would solve many transportation problems strengthening the link between the town and its surrounding environment. Basically, the results of the Tenth of Ramadan town survey were subject to a sampling error that ranged between +11% and -11% at the (95% confidence level). This value of sample error is not small but also is reasonable; therefore, the results are broadly acceptable for the research purposes.

Deciding to develop the town in stages is found to be a good idea, as completing one stage and being occupied may sustain starting building other stages. Consequently, the

town would need external funding in the beginning but later it could build itself up independently. Regarding the town's dwellings, most of them were found in good condition and residents were satisfied with them. However, having many empty dwellings of certain levels and a lack of dwellings at another levels indicates a weakness in the implementation programme management. Also there is a lack of annual reports that investigate recent progress in the town life and its residents' main needs that may vary from time to time. For instance, most of the workers in industry do not get good opportunities in finding places to live in the town itself where they work. At the same time, factories provide 116,000 job-opportunities. This means that most of the workers in the industrial sector work in the town but live elsewhere. In other words, industrial developments of the Tenth of Ramadan appear strong and is continuing to be so, provided present policies are maintained; but on the other hand, as an independent industrial town with a housing programme to suit the whole spectrum of incomes and a town to house its labour force, was not achieved.

The decision to sell land at low prices without safeguarding that the land occupiers would live and work in the town itself had led to a development in the opposite direction, to a town that is attractive to middle income families and investors with houses that are too expensive to most of its targeted inhabitants. As was stated ,

“ At present a very little affordable housing available to industrial workers, a new housing with right costs suitable to this level is required”.

(Focus group meeting, 2002)

Actually, pictures of the town as well as attitudes of most of the town's residents interviewed showed that the town gives the expression of a nice successful town, especially regarding the residents' intention to stay in the town (figure 7.23). From the view of a planner, however, and by going back to the basic aims behind the

construction of the Tenth of Ramadan in section (7.1) of this chapter, and comparing it to what was found before regarding the town achievements up until now, it can be concluded that the town had been relatively successful in achieving three of these aims. Those aims include: providing different job-opportunities, increasing the industrial base and consequently, improving the national and regional income of the country in the industry field. This was not the same regarding the forth aim of relieving population pressure on Cairo. Although thousands of people had migrated to the Tenth, yet not as was expected for the targeted year, and Cairo however, still suffers from population congestion. Therefore, the town seems to be successful but there is an imbalance between industrialisation and urbanisation in it and the big number of population targeted was over ambitious for a new town in a limited period 20-25 years.

The major issue today is therefore to assist the town towards a balanced development where the inhabitants live and work in their own town, thereby, becoming really self-sufficient and a self-contained town. The Government hadn't decide yet a new programme for completing the town but probably housing for low-income level group needs to take the priority in any new projects to be funded in the town and revenues as well as taxes on industrial projects in the town, would be better if devoted for such new developments. However, and in spite of all, this town is still better than other new towns built in Egypt until now, such as the towns that will be investigated in the following chapters. A brief of the town's main problems and prospects as well as suggestions for its life in future is displayed in the diagram below.

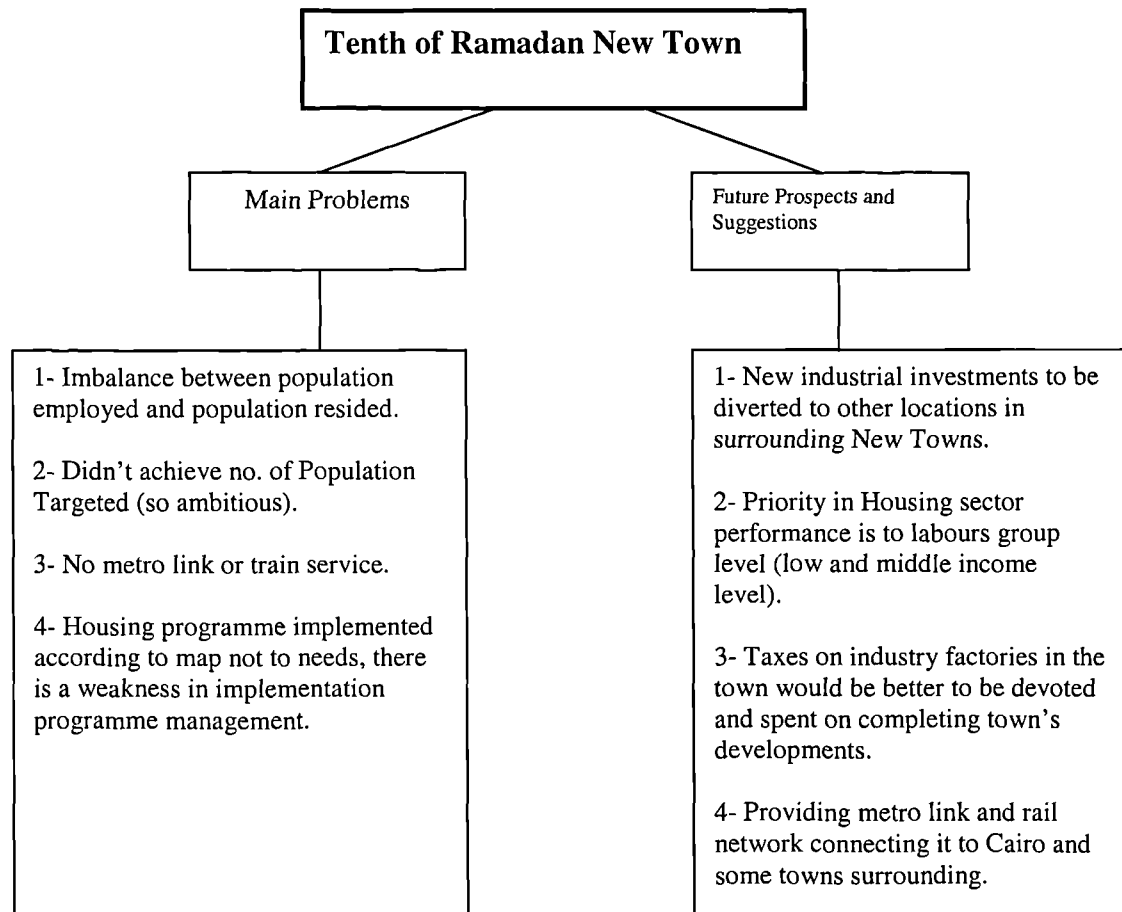


Figure 7.25: Main Problems and Future Prospects in the Tenth of Ramadan Town.
Source: By Researcher.

However, this is all about the first case study and the following chapter will illustrate the second case study (Badr Town) that is facing major problems in its life and its development process.

Chapter 8:

Badr New Town (Second Case Study)

8.0 Introduction

The previous chapter had presented a relatively successful new town from the first generation in the Egyptian experience, exploring the factors that played a role in making it relatively successful; whereas this chapter will study a town from the second generation that is unsuccessful, investigating the factors that caused its failure, as it is nearly empty. It is Badr new town that was established according to the Ministerial Decree No.335, issued in April 1982, by Minister Dr. Fuad Mohy Aldeen, stated as the following: "Lands owned by the government, and located in the distance between 46 and 50 km to the right of Swez/Cairo desert road are to be devoted to establish a new urban community called Badr" (Ministry of H.U.NUC, 1998, p. 267). Badr location intermediates three important regions in the country (the Delta, the Canal, and the Red Sea regions). The town is 47 km from Cairo, and is located on Cairo/Suez road, connected with Cairo/Ismailia desert road, through a connection called Robaiki road that penetrates Badr town, and continues to the north to become perpendicular with Cairo/Ismailia desert road, where the Tenth of Ramadan is located, 19 km from Badr town (figure 8.1).

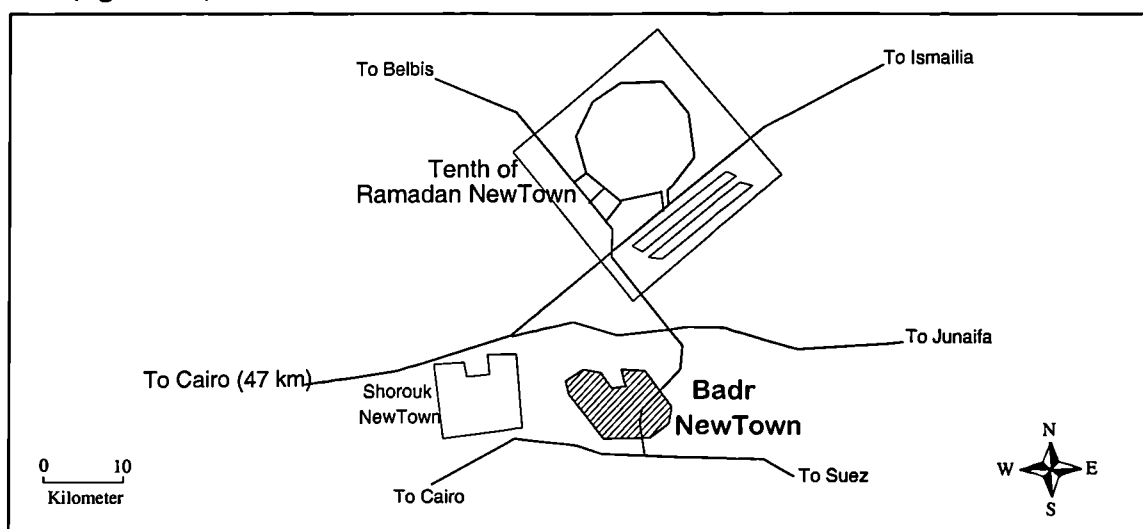


Figure 8.1: Site Location of Badr New Town.
Source: Ministry of H.U.NUC, 2000b, p.48.

The town has a good regional connection with Cairo, the Delta, the Suez Canal, the Red Sea and Sinai regions. Its site is about 200-240m above sea level, providing favorable climate, especially for health and hygienic purposes (NUCA, 1996c, p.19). The first master plan was initiated in 1982 and construction works started in 1983. Later, in 1995, the plan was updated and more areas were added to it. Industrial area was expanded towards the east; a medical and tourism area in the eastern south; and a residential area of upper-income group level in the south, expanding, as a whole, the built-up area of the town from 15 to 51 km² and the total area of the town became 73 km², including green belt (figure 8.2).

8.1 Aims and Planning Concepts of Badr Town

Actually, the main aim of establishing Badr New Town was to absorb excess population from Greater Cairo Region, along the Cairo/Suez axis, and to provide job opportunities in industry as well. Therefore, the development strategy of the town depended on the following concepts:

1-Industrial area should be located in the eastern part of the town to be with an easy connection to Kattamia area (resources area) and to avoid its extension to the north of residential area. In addition, a green area for isolation is to be located between residential and industrial areas.

2-There should be a separation between traffics leading to industrial areas and traffics leading to residential area, through designing a transportation network that connects external roads directly with industrial areas without the need to penetrate the core of the town's residential area.

3-Open areas and parks should be directed in a way to be perpendicular with prevailing wind direction (north and north west).

4-Getting the benefit of the healthy site of the town, a medical resort area is to be considered in the master plan as an attractive element in the town.

5-Future growth of the town is to be directed towards the flat area, extending to the west of the site and, therefore, the town linear centre should be located in a place that connects all parts of the town and, at the same time, directs its expansion towards the future growth area, to the west.

6- The town is to be built on two stages, reaching its targeted year in 2017.

(NUCA, 1996b, p.5-7)

A total area of 73 km² is allocated for Badr town of which 51 km² (70%) is dedicated for built-up area and the rest is for the green area. In the updated master plan, built-up area includes: residential area, industrial area, commercial area, tourism and medical area and public services. Sizes of these different areas are presented in table (8.1). Time span for the master plan was 15 years and later, updating the plan, it was expanded to 17 years more (Ministry of H.U.NUC, 2000b, p.66).

Land Use	Area (km ²)	% of Total Urban Area
Residential Area	33	64%
Industrial Area	9	18%
Medical & Tourism Area	1	2%
Commercial Area	2	4%
Public Service Area	6	12%
Total Built-up Area	51	100%

Table 8.1: Land-Use of Built-Up Area in Badr Town.

Source: M.H.NUC, 2000b, p.66.

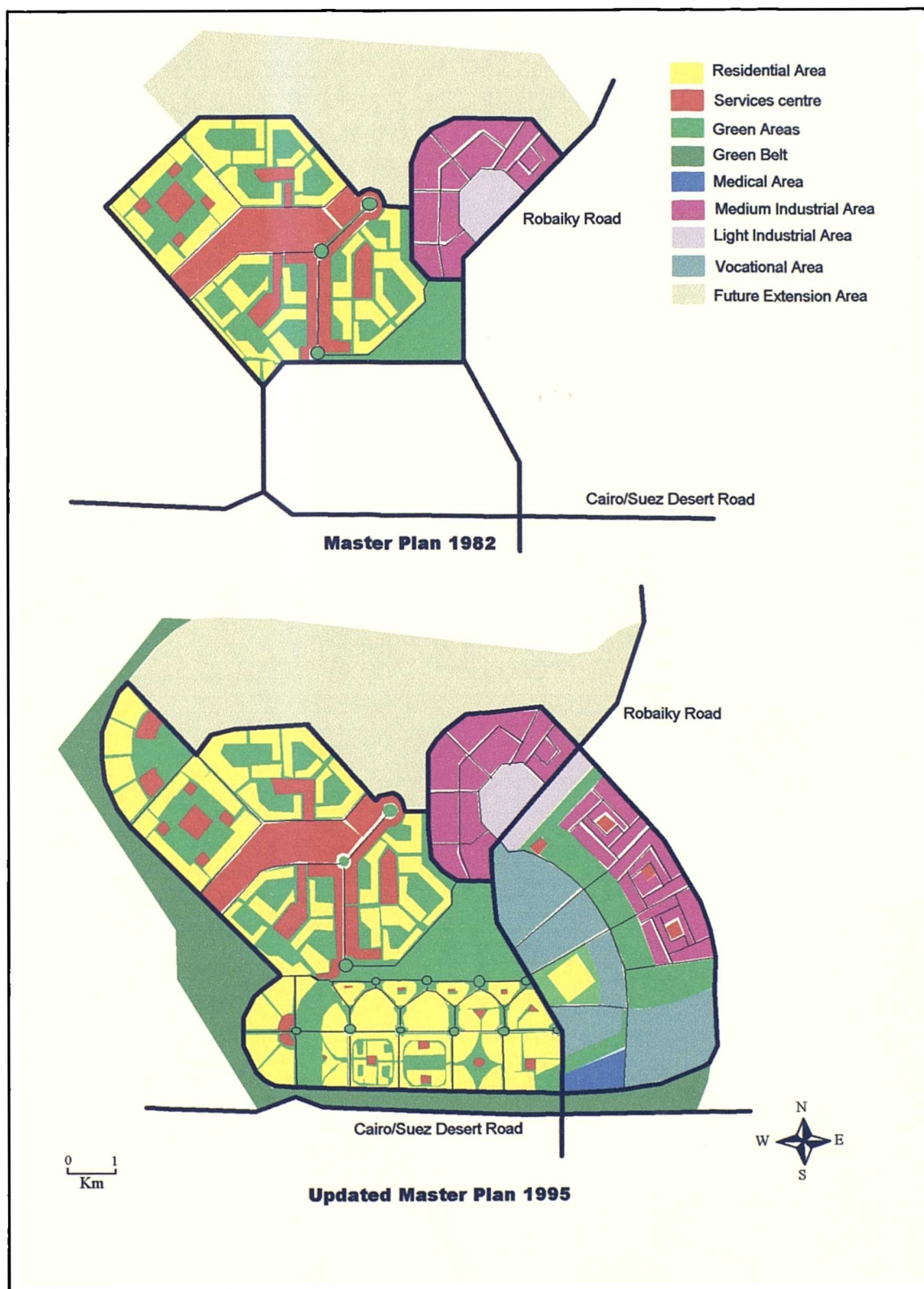


Figure 8.2: Badr Town Master Plan 1982 & Updated One 1995.
Source: NUCA, 1996c, p.20.

8.2 Financing and Investment in Badr Town

The capital invested in the industrial sector is 243 million Egyptian pounds, and in residential projects 159 million Egyptian pounds. As a whole, the government had spent 459 Egyptian pounds in Badr town, and undertook the whole responsibility of financing the town, with the exception of few projects which were undertaken by other bodies, such as dwellings finance organizations and construction housing Bank (Ministry of H.U.NUC, 2000b, p.67). So, it appears that the private sector was not attracted to invest in Badr Town and this explains the delay in developing projects because the government could not bear a whole new town expenses alone. Prices of dwelling units in the town are relatively cheap; dwellings of upper-middle income group level cost 50,000 Egyptian pounds, middle income group level cost ranges between 25,000-30,000, and for low-income group level it costs about 15,000. These amounts could be paid directly or by giving a primary (initial) payment that equals 6 times the monthly income of the resident. After that, he/she pays 25% of his/her salary each month until they complete the whole price of the dwelling. In this case however, the price of the dwelling rises by 10% of its real price (Eng. Hanan Akel, manager of planning and research studies in the Ministry of H.U.NUC).

8.3 Badr Town Components (Comparison between Target and Achievement)

In the following paragraphs, there will be a comparison between the components of the town that were planned in the updated master plan and those performed in its current situation. This comparison is based upon documentary evidence, expert interviews and

the questionnaire survey of residents living in Badr town. The comparison is illustrated briefly in figure (8.4).

8.3.1 Population

In the beginning, the town was planned to accommodate 280,000 residents in the year 2000. This number was increased to 430,000 after updating the master plan (Ministry of H.U.NUC, 2000b, p.67). In 1996 census, there were only 248 residents* occupying the town (CAPMAS, 1996a). Later, especially after updating the plan by adding more industrial and vocational areas to it, workers in these sectors started settling in the new town's dwellings. In addition, some of the 1992 earthquake victims were transferred to this town in 1998, after completing the dwelling units for them to be suitable for living in. Eng. Sulaiman stated,

“The town was empty until recently, it became a bit better due to Cairo's earthquake problem in 1992 and the need to provide dwellings to those affected people living in the inner city's overcrowded and ill-houses areas”

(Sulaiman Muhamad Sulaiman, Planning Engineer in Town Council, 2002)

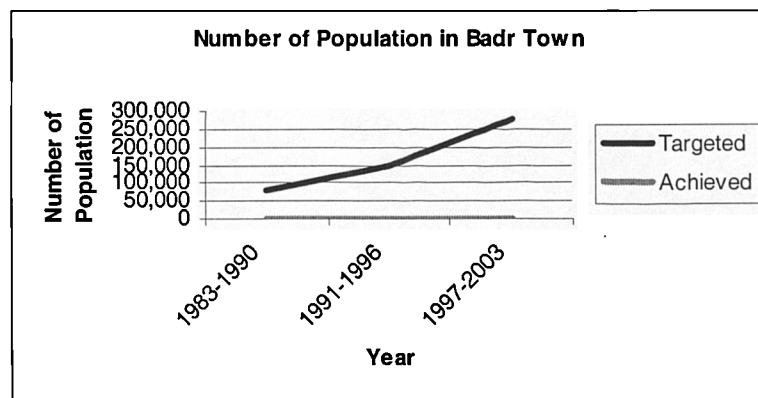


Figure 8.3: Comparison Between Population Targeted and Achieved.
Source: B.T.C, 2000, p.5; CAPMAS, 1996a.

* Further evidence about number of population is in Yousry and Aoul Atta, 1997, p. 138; Sutton and Fahmi, 2001, p.143.

Badr Town

Badr Towns' Components	Targeted in		Achieved and Equipped with Utilities in 2000	Achieved/Targeted %	Current Shortage
	Master Plan 1982	Master Plan 1985			
Population (number)	280,000	430,000	1,358	0.3%	428,642
Dwelling (units)	17,125	52,372	20,284	38%	32,088
Residential Area (sq.km)	10	33	8	24%	25
Industrial and Vocational Area (sq.km)	4	9	4	44%	5
Public Services Area (Health, Education, etc.) (sq.km)	1	6	1	16%	5
Commercial Area (sq.km)	0.6	2	0.5	25%	1.5
Medical and Tourism Area (sq.km)	0.5	1	—	—	1
Total Built-Up Area (sq.km)	15	51	13.5	27%	37.5
Green Area (sq.km)	3	22	3	13%	19

■ Achieved by 2000

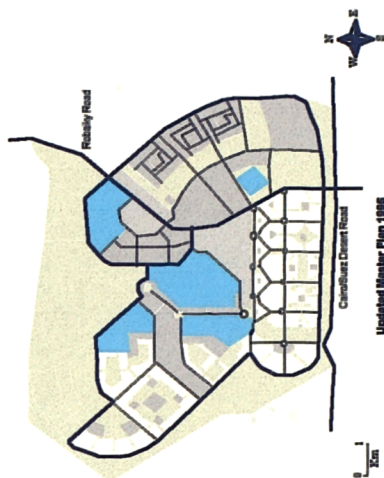
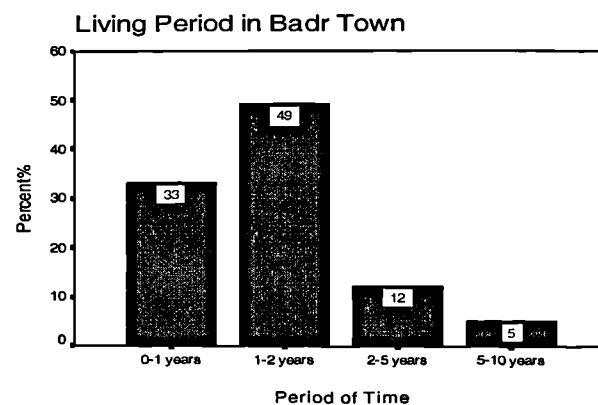


Figure 8.4: Comparison Study of Town's Components Between Target and Achievement.

Source: By Researcher based on Badr Master Plan 1982 & 1995; Ministry of H.U.NUC, 2000b; and B.T.Council Report, 2000.

In spite of that, number of residents in the town grew up to 1,358 people only in 1999 (B.T.C, 2000, p.5). This was far behind targeted number in the year 2000, which was 280,000. This recent increase is confirmed by figure (8.5) that represents living period in the town which shows that most of residents in the town had moved to it quite recently. (49%) and (33%) of interviewees had transferred to Badr in the last two years, while the remaining (12%) were living in the town 2–5 years and only (5%) 5–10 years. In spite of that, developments in the town started in 1983 and this means that the town was developing very slowly, especially with regard to public services. Only recently few services were provided, thus encouraging more people to come and live in the town.



* 1-2 years means that from 1 year to less than 2 and so on for the other periods.

Figure 8.5: Respondents' Living Period in Badr Town.

Source: Field Survey Questionnaire, 2002.

8.3.2 Housing

In the master plan the residential area forms 33 km² of the total built-up area, divided into three parts. One is 10 km², that is located in the western north of the plan and includes four districts of low-income and middle-income group levels. The other area is 5.8 km² and is located in the south of the plan, and it is allocated for upper-income group level (villas). The third area is 0.3 km², a small area adjacent to industrial area in

the east, this area is designed especially for workers in the town's industrial sector, therefore it is of low-income group level dwelling units. This is in addition to a future growth area of 16.9 km² to the north of the town, designed as a residential area for future expansion (NUCA, 1996a, p.12). In the plan 52,372 dwelling units were planned to be built, in the town including dwelling units for different levels. In the field survey, the samples chosen included these different types of dwellings as the town is planned to contain four types of dwellings (figure 8.11):

- 1- Dwellings for low-income group level, in terraced buildings of 4-5 floors.
- 2- Dwellings for middle-income group level, in Semi-detached buildings of 4-5 floors sharing the stairs.
- 3- Dwellings for upper middle-income group level, in Semi-detached houses.
- 4- Dwellings for upper-income group level, in Villas.

In the current situation, most of dwelling units performed are from low-income and middle-income group levels type. Number of housing units built in the town are 20,284 units only, of which 13,104 are for low-income group level and 7,100 for middle income group level, and very few, 80, are for upper middle-income group level. Therefore, survey samples were chosen mostly from the low-income buildings type (53%), from the middle-income buildings (40%), and from the upper middle-income houses (7%) only. Area designed for upper-income group level units is actually divided into plots and 80% of it is equipped with basic infrastructure, but still none of their developments were completed and resided until the time of the survey investigation.

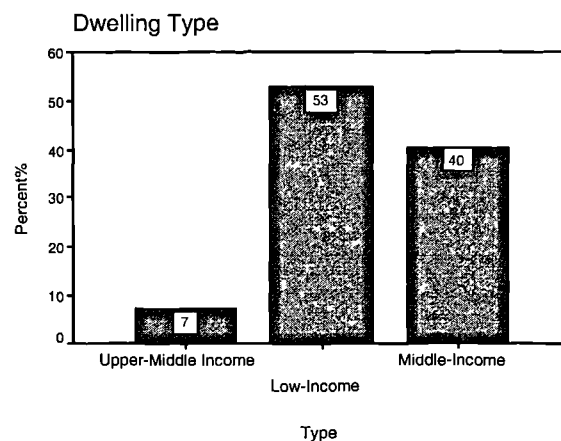


Figure 8.6: Percentages of Dwelling Types Selected in Badr Town Survey.
Source: Field Survey Questionnaire, 2002.

A visual survey of dwellings condition was carried out in the town, in the questionnaire survey. The results of this visual survey showed that, generally residential area is in a bad situation, and even recently completed new buildings are in a bad state (figure 8.7). The picture shows how it looks like a derelict land in the desert and the buildings appearance from outside is miserable, especially those of low-income group level. They look like solid boxes with regular holes in them forming windows, without any design or artistry touch, lacking any kind of attraction (figure 8.8). The survey, however, showed slightly better results in figure (8.9), most of the dwellings investigated are in average physical condition, from both outside and inside, but 26% of these dwellings are in poor condition from outside. Water leakage appears on external walls of these buildings which gives an offensive view to the area and also most of the buildings in Badr Town are painted with a dark miserable colour (Brownish yellow), same as desert sand colour which has no attraction (figure 8.8). Physical condition of dwellings from inside is better, but actually this is due to the fact that most of the residents were unhappy with the interior finishing of their dwellings at the time



Figure 8.7: Water Leakage on External Walls of Dwelling Buildings in Badr Town.
Source: Research Visit to Town, 2002.



Figure 8.8: Low-Income Group Level Dwelling Buildings.
Source: Research Visit to Town, 2002.

they bought them, therefore, they had to virtually reconstruct internal works, especially works related to sanitary, floor tiles and wall painting, before moving to live in them. This had added more costs to the price that they paid for their dwellings. Thus, although answers of the questionnaire showed that most of the dwellings are in average and good condition from inside but that is due to improvements made by occupiers, and most of the rest unoccupied dwellings are yet in bad physical condition.

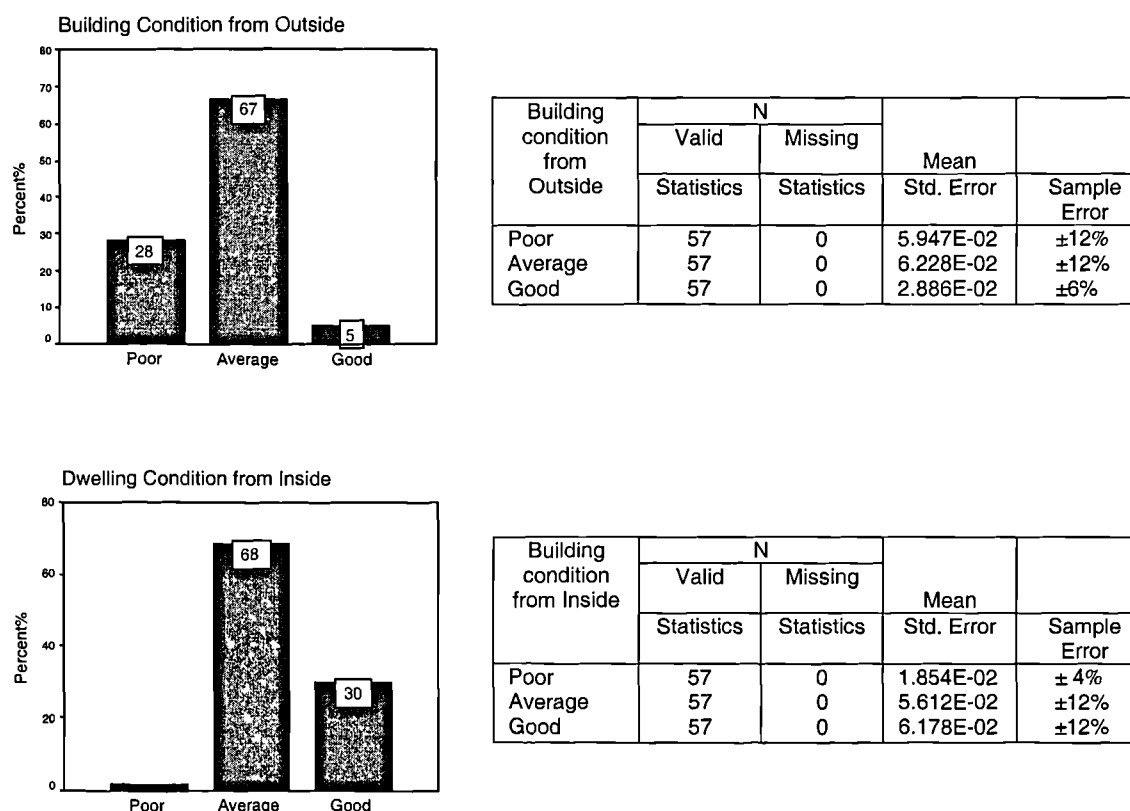


Figure 8.9: Physical Conditions of Dwellings in Badr Town.
Source: Field Survey Questionnaire, 2002.

In addition, the figure below shows that most of the buildings were designed without their own parking areas, especially the terraced buildings those of the low-income group level. The only way to park is on streets and roads where these buildings are located. It is not yet a problem now as the town is still nearly empty but in the future it may cause a problem and residents will be complaining of this point. However, it isn't

easy for this income group level to own a car especially that, cars are so expensive in Egypt, and so probably there would not be a problem even in the future.

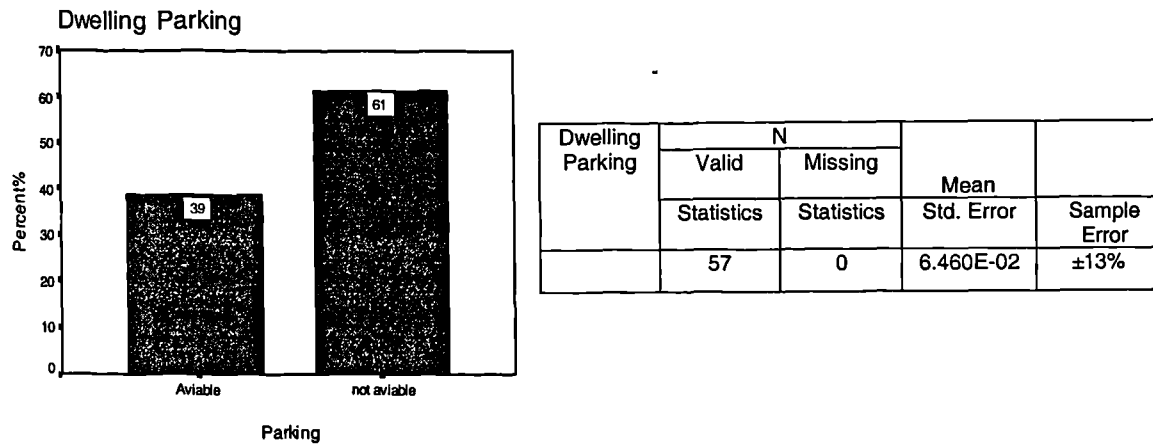


Figure 8.10: Dwelling's Parking in Badr Town.
Source: Field Survey Questionnaire, 2002.

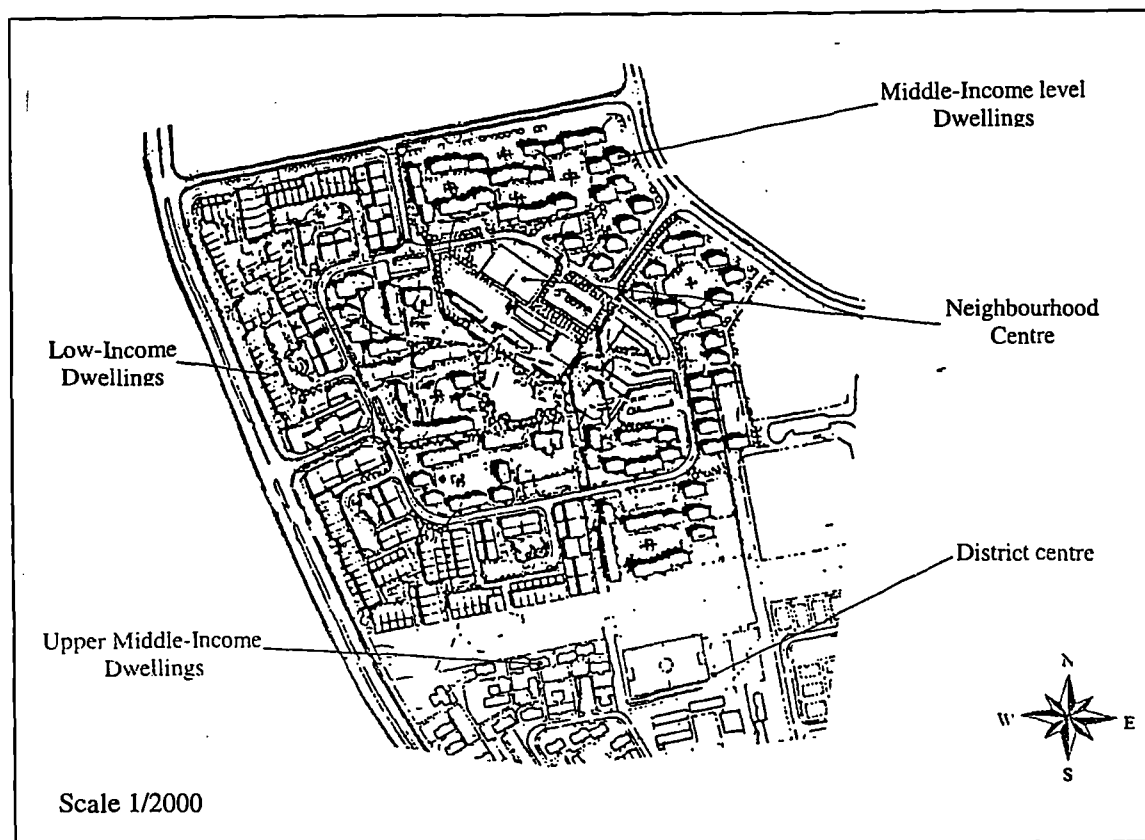


Figure 8.11: Part of the Housing Area in Badr Town.
Source: NUCA, 1996b, p.9.

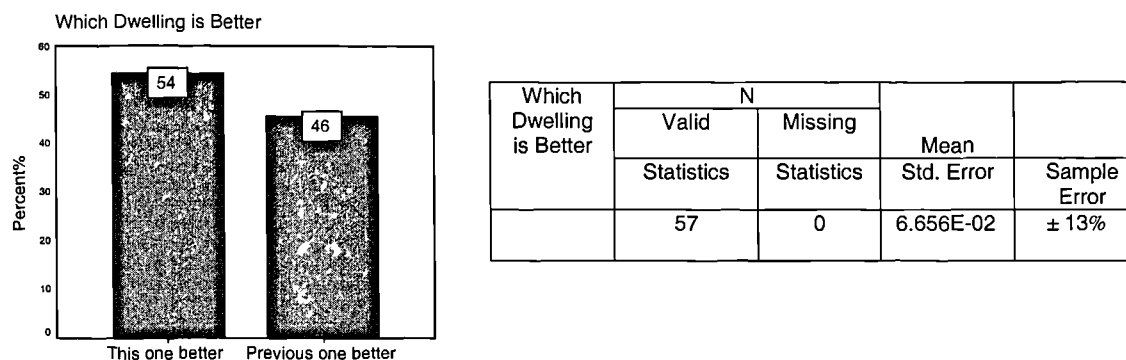


Figure 8.12: Respondents' Attitudes Towards their Dwellings in Badr Town.
Source: Field Survey Questionnaire, 2002.

Attitudes were better in accordance to residents' comfort in their new dwellings, compared to the previous ones they were living in. Most of them (about 54%) had replied that their dwellings in Badr Town are better because they have more number of rooms and that sunshine enters them, the thing that many of Cairo's residents lack in Cairo. The others (46%) who had chosen previous dwellings as better than the ones they moved in Badr Town, stated that, their attitudes were mainly because of the bad physical condition of their dwellings whether from inside or outside, or because the number of rooms in some dwellings was not enough.

The results of the questionnaire survey, regarding the dwellings' characteristics in Badr Town are merged in three columns (very unsatisfactory & unsatisfactory) in one column and (satisfactory & good & very good) in another column figure (8.13). The graph shows that most of respondents are happy with their dwelling's location in the town and also with the design of the dwelling from inside that suits their living style, as nearly all Egyptians are now used to this dwelling design, which is called 'European modern design'. However, their attitudes are not the same towards their satisfaction with the local environment, as well as, with the neighbours.

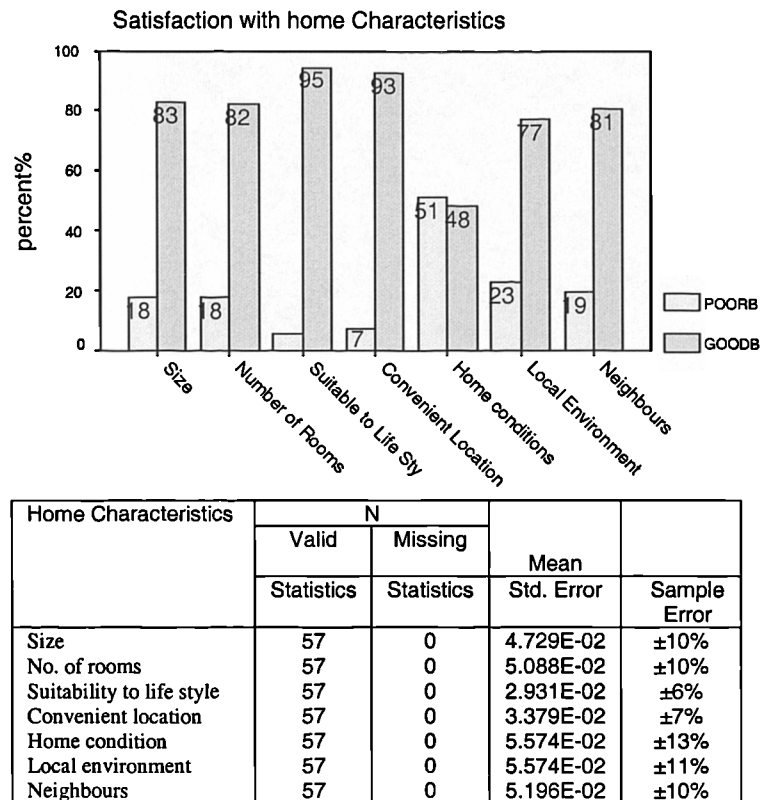


Figure 8.13: Satisfaction with Home Characteristics in Badr Town.

Source: Field Survey Questionnaire, 2002.

Investigating the satisfaction of residents towards the rent or mortgage installment of their dwellings in the town, showed that nearly 50% of the respondents find this payment 'reasonable' in comparison with other dwellings' prices, those of nearly the same size area in Cairo, but 30% replied with unreasonable, which isn't a small percentage. The reason for that can be explored from what one of the residents had stated when he was asked this question in the focus group meeting:

“ If we will speak about it as a price for a home in Egypt, so it is really cheap but if we consider the shortage of services in Badr Town and how much it costs us to go every day to bring our daily needs from outside this town, I think it would be more expensive to live here and the price of the dwelling will become, in this case, unreasonable in comparison.”

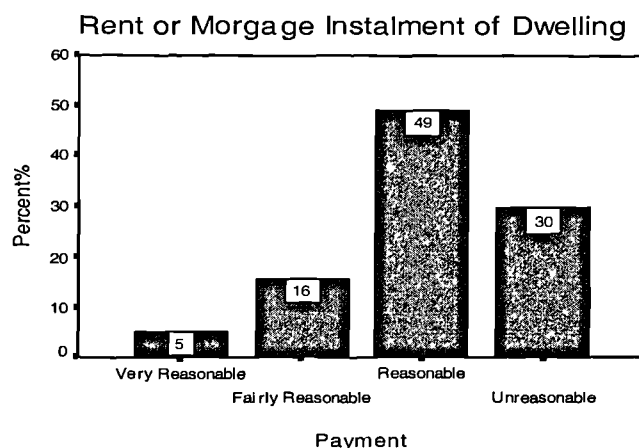
(Focus Group, one resident from Badr town, 2002)

However, prices of dwellings in Badr Town were determined according to many factors. The main factor is the income level in Egypt. Thus, upper middle income group level dwelling units cost nearly 50,000 E.£ ; middle income level dwellings costs range



Figure 8.14: Middle-Income Group Level Dwelling Buildings.
Source: Research Visit to Town, 2002.

Between 25,000-30,000 E.£; and low-income level dwelling units cost about 15,000 E.£ . These amounts could be full balance payment or on a mortgage payments. In the latter case, an initial payment, that equals, to 6 times monthly salary of resident's income to be paid at the beginning, and later, each month he or she pays 25% of their salary. In this case, mortgage payment rises by 10-15% of the original price (Eng. Nashaat Mouhamad, financial affairs manager in Badr Town Council). The prices of the dwellings in Badr are really not expensive but the problem is that the town is not attractive. As was stated in the focus group meeting, comparing such dwellings to those available in Cairo with much better services supplied there, with no need for daily journeys to cities around to get different services, these dwellings would be more expensive than to buy one in these full served cities such as Cairo.



Dwelling rent or mortgage Instalment	N		Mean	
	Valid	Missing		
	Statistics	Statistics	Std. Error	Sample Error
Very Reasonable	57	0	2.886E-02	± 6%
Fairly Reasonable	57	0	4.855E-02	± 9.5%
Reasonable	57	0	6.621E-02	±13%
Unreasonable	57	0	6.069E-02	± 12

Figure 8.15: Respondents' Attitudes Towards Dwellings' Price or Rent.
Source: Field Survey Questionnaire, 2002.

8.3.3 Industrial Area

In the first master plan, areas devoted for industrial-use were 4 km², planned to be located in the northern-west of Robaiki road (figure 8.2). However, after the plan was updated in 1996, this area was stretched towards the northern-east and southern-east of Robaiki road and the total industrial area became 9km² in the master plan. Industrial area is subdivided into 5 areas, including different types of industries: medium, light, vocational industries, and warehouses. Their plots vary between 200 to 1700 m², in addition to future expansion area. It was planned for the industrial area to contain 623 factories of different types, such as textile, chemical, steel, nutrition, electrical, mechanical, etc. (NUCA, 1996b, p.13). The idea of expanding industry in Badr Town came from the experience of the 10th of Ramadan Town, which had grown because of its industrial economic base.

In the current state, 62 factories are already operating and another 554 are under construction, whereas the rest are not developed yet. Factories which had started operating are those located in the area to the west of Robaiki Road, in addition to some vocational industries in the south east of Robaiki Road where the area is of mixed land-use (residential, vocational industries). Capital invested till now in these factories is 243 million Egyptian pounds (B.T.C, 2000, p.15).

8.3.4 Employment and Job-Opportunities

Actually, the town is providing job-opportunities mainly in industry sector, for workers living in the town and outside the town but the rate of this provision is lower than what was expected. This is probably due to many reasons but one vital one is the 10th of Ramadan Town, which is very near to Badr Town, about 19 km distance. The 10th of Ramadan has attracted most of the industrial investors to it and proved its success in the industrial sector. Most of investors planning to invest in this region, would think of going to the Tenth of Ramadan directly more than to Badr. Therefore, Badr did not develop as the 10th of Ramadan in this sector.

Looking at figure (8.16) that describes current job of interviewees, it can be seen that most of them (42%) work in professional and management jobs in government or private institutions mostly located in Cairo and 10th of Ramadan town; whereas, 19% & 7% are working in skilled and unskilled jobs in the town itself, and in the 10th of Ramadan, as well as, in few other cities around. This is because dwellings in this town are more available for low and middle-income groups and also cheaper in price than those of the 10th of Ramadan or other cities. The rest are salespersons or self-employed, others are not working (retired) or have no permanent job.

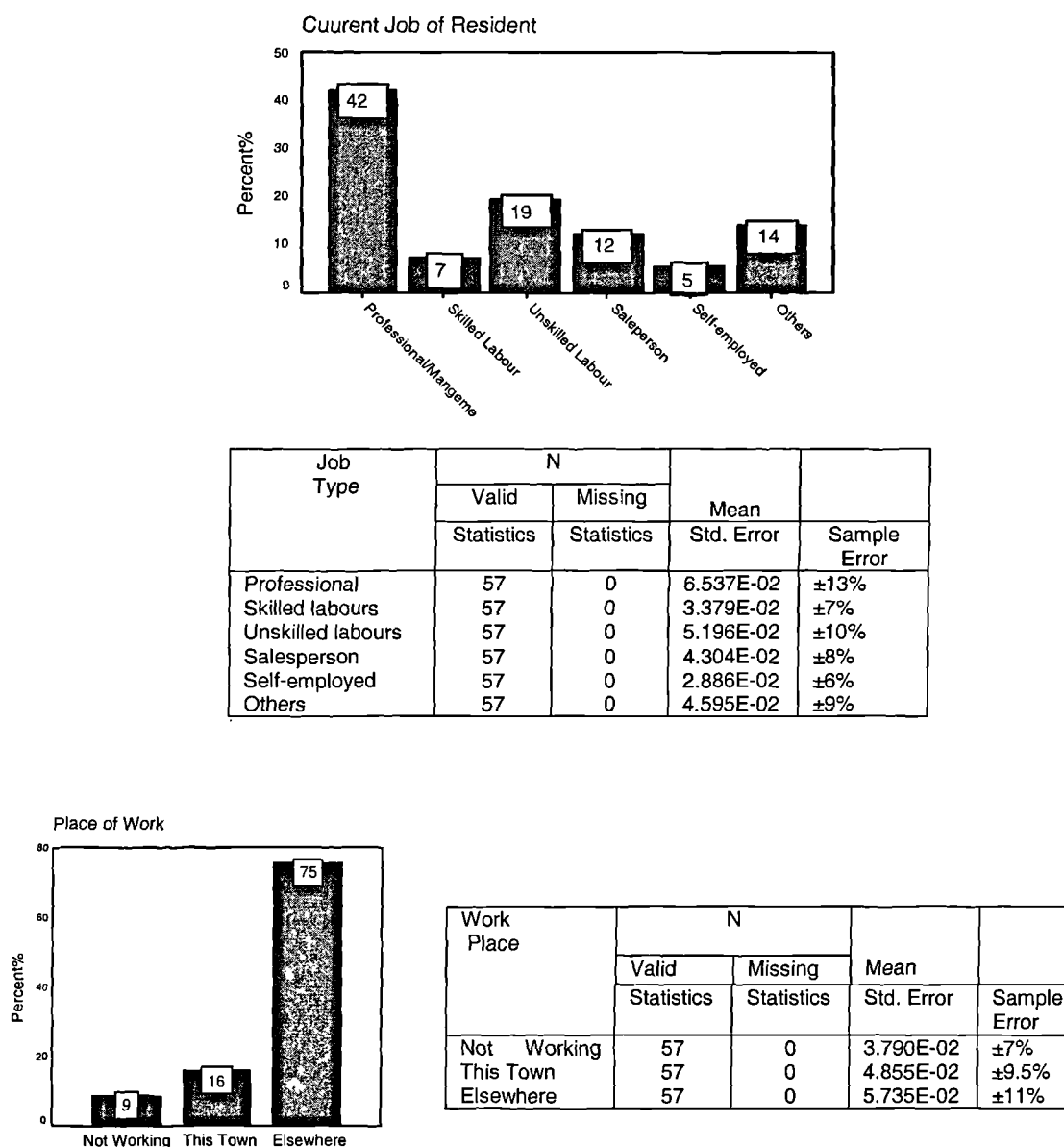
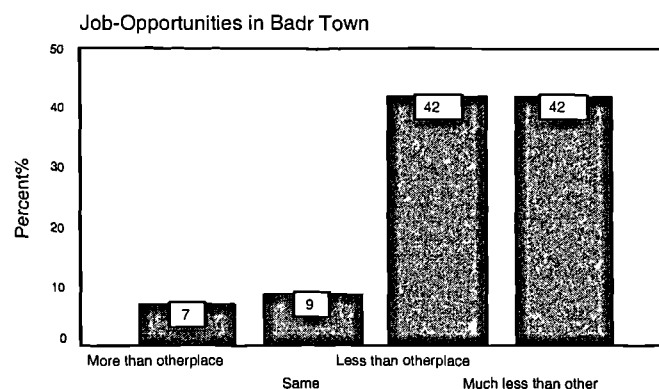


Figure 8.16: Respondents' Place and Type of Work in Badr Town Survey.
Source: Field Survey Questionnaire, 2002.

However, 'Place of Work' graph shows that most of the respondents (75%) live in the town but work elsewhere, whereas only 16% work in the town and the rest (9%) are not working. Thus it is obvious why people's attitudes towards job-opportunities in the town were mostly negative. Most of them (42% and also 49%) had replied that job-opportunities are less or even much less than other places; whereas, a few (only 4% and 5%) had replied by 'more than' or 'same' and actually those are who had got opportunities in industrial sector in the town itself.



Job Opportunities	N		Mean	
	Valid	Missing		
	Statistics	Statistics	Std. Error	Sample Error
More than other places	57	0	3.379E-02	±7%
Same	57	0	5.450E-02	±7%
Less than other places	57	0	3.790E-02	±13%
Much less than other places	57	0	3.790E-02	±13

Figure 8.17: Respondents' Opinions About the Availability of Job-Opportunities in Badr Town Survey.

Source: Field Survey Questionnaire, 2002.

8.3.5 Commercial and Public Services

The total area planned for commercial services in Badr Town is 2 km², including the town centre and also centres of districts and neighbourhood units level. Whereas, areas planned in the town for public services, such as schools, culture, and health centres, etc, are 6 km². these services are distributed among the main town centre, districts and neighbourhoods' centres. The size of the main town centre as a whole is 1.6 km², and has a linear shape opened from the western side towards future growth area. The centre is planned to include commercial services, health services, entertainment and culture services, and main bus and micro-bus stations, etc. District centres are to include elementary and secondary schools, emergency units, mosques, libraries, shopping centres, fire stations, and entertainment facilities, etc. Neighbourhoods' centres are planned to include day-to-day needs markets, kindergartens, clinics, etc.

In fact, very few services had been constructed in the town since 1983, until now. These services are: four primary schools, one in each district of the northern residential area and one secondary school in the first district only, three kindergartens in the first and second districts, one general medical clinic, one shopping centre in the first district and another one in residential area located to the south-east, this is in addition to few shops in the neighbourhoods of the first and the second districts. It appears that there is no planned programme for the implementation process in the town, as the number of residents occupying it is so little, and projects are developed according to what is drawn in the master plan, not to what is required.

As far as cultural and entertainment services are concerned, there is nothing, except one sport club which is still under construction (B.T.C, 2000, p.11). It appears from the table below that (59.7%) of the interviewees were dissatisfied & very dissatisfied with shopping facilities provided in the neighbourhoods' centres and 89.5% are dissatisfied & Very dissatisfied with same services but in the main town shopping center. This indicates that residents are commuting every day from the town to get even day-to-day needs. So there is a great shortage in the shopping facilities provided in Badr Town. This dissatisfaction by shopping facilities is due to their unavailability and also of the bad quality of products, as well as, its expensive prices (Focus Group meeting 2002).

	V. Satisfied	Satisfied	Neutral	Dissatisfied	V. Dissatisfied
Neighbourhood Centre		40.4% (SE=±13%)		43.9% (SE=±13%)	15.8% (SE=±9%)
Town Shopping Centre		10.5% (SE=±8%)		70.2% (SE=±12%)	19.3% (SE=±10%)

Table 8.2: Satisfaction with Shopping Facilities in Badr Town Survey.

Source: Field Survey Questionnaire, 2002.



Figure 8.18: The Centre of One of Neighbourhood Units in Badr Town.

Source: Research Visit to Badr Town, 2002.

Respondents' attitudes towards health services were not good. Table (8.3) showed that all interviewees were complaining from the shortage of hospitals in the town, 91.2% are dissatisfied & very dissatisfied with emergency units, and 86% are dissatisfied & very dissatisfied with clinics. Whereas, pharmacies are somehow better, nearly 55% of interviewees were satisfied with them. It is the fact that residents of Badr Town depend on the Tenth of Ramadan hospital for health problems which would be a bit far to get to, particularly for patients in emergency cases.

	V. Satisfied	Satisfied	Neutral	Dissatisfied	V. Dissatisfied
Hospital				14.0% (SE=±9%)	86.0% (SE=±9%)
Emergency Units		1.8% (SE=±3%)		35.1% (SE=±12%)	56.1% (SE=±13%)
Clinics		3.5% (SE=±5%)		38.6% (SE=±13%)	47.4% (SE=±13%)
Pharmacies		54.4% (SE=±13%)		29.8% (SE=±12%)	12.3% (SE=±8.5%)

Table 8.3: Satisfaction with Health Services in Badr Town Survey.

Source: Field survey Questionnaire, 2002.

For education services, it was found that residents are more satisfied with kindergartens and primary schools as about 16% only are dissatisfied with kindergartens and nearly 31% dissatisfied with primary schools. Whereas, 46.4% are dissatisfied & very dissatisfied with elementary and secondary schools and 53.6% are dissatisfied with high institutions in the town. The rest 46.4% are neutral, those who don't have children at all or their children are still too young for school.

	V. Satisfied	Satisfied	Neutral	Dissatisfied	V. Dissatisfied
Kindergarten		53.6% (SE=±13%)	30.4% (SE=±12%)	16.1% (SE=±9.5%)	
Primary School		25.5% (SE=±11%)	43.6% (SE=±13%)	23.6% (SE=±11%)	7.3% (SE=±7%)
Elem. & Secon. School			53.6% (SE=±13%)	35.7% (SE=±12%)	10.7% (SE=±8%)
High Edu. Institutions			46.4% (SE=±13%)	14.3% (SE=±9%)	39.3% (SE=±13%)

Table 8.4: Satisfaction with Educational Services in Badr Town Survey.

Source: Field survey Questionnaire, 2002.

Table (8.5) represents respondents' attitudes towards cultural and entertainment services. It shows that a high percentage of interviewees were unhappy, generally with these services, especially cultural centres 73.7%, and entertainment 89.5%, as the town has no libraries, cinemas, museums or even restaurants except two cafeterias in one district only. These activities are missing in the town, although there is a big sport club and a mosque as well but even though they are still under construction and needs more money to be completed. Also parks are planned and bounded, but actually most of them are not planted.

	V. Satisfied	Satisfied	Neutral	Dissatisfied	V. Dissatisfied
Culture Centres		1.8% (SE=±3%)	24.6% (SE=±11%)	47.4% (SE=±13%)	26.3% (SE=±11%)
Entertainment Centres		5.3% (SE=±6%)	5.3% (SE=±6%)	68.4% (SE=±12%)	21.1% (SE=±11%)
Parks		29.8% (SE=±12%)	14.0% (SE=±9%)	50.9% (SE=±13%)	5.3% (SE=±6%)
Sport Clubs		1.8% (SE=±3%)	52.6% (SE=±13%)	28.1% (SE=±12%)	17.5% (SE=±10%)

Table 8.5: Satisfaction with Cultural & Entertainment Services in Badr Town Survey.
Source: Field Survey Questionnaire, 2002.

Thus it is clear that public services implemented till now are very little and far behind what was planned, which is a main reason for the town being unattractive for most people. As Eng. Sulaiman stated that,

“Public services are very little in the town, this is due to the unavailability of fund needed to complete these projects, which makes the people run away from the town. I work here in this town but I live in the Tenth of Ramadan, I actually, prefer to commute every day to my work instead of living in this poor served town”.

(Sulaiman Mohamad Sulaiman, Planning Engineer in Badr Council)

8.3.6 Medical Resort and Tourism Area

Due to the favorable location of the town and the good climate conditions, a new medical complex was planned in the updated master plan to be established in the eastern-south part of the town and to the east of main town entrance on Cairo/Suez Road. The location was chosen there to be an attractive point in the town. Besides, additional specialized medical centres' plans are now under preparation to be established in the following years. These centers include diabetes and endocrinology institute; herbs therapy centre; physiotherapy centre; and national institute for mental health. A tourism area also adjacent to the medical area is planned to include tourism services such as hotels, restaurants, and traditional shops. These two areas form 1 km² and are located next to residential area, the one that is planned for upper-income group

level (NUCA, 1996c, p.19). But actually the three areas are still not built; they exist on plans only.

8.3.7 The Infrastructure

Roads and Transport Facilities:

The questionnaire had investigated two issues in transportation; the performance of transport networks and the provision of means of transportation. Regarding the internal transport networks, only districts 1 and 2, to the north-west residential area, have internal network completed. Other areas, part of their works are still under construction, as in the third district, and a part of the main town centre. The areas, which are not occupied yet, still their internal transport networks construction works didn't start. Table (8.6) shows that only 19.3% of interviewees are dissatisfied & very dissatisfied with pedestrian networks, which is not a bad percentage but it should be kept in mind that the questionnaire is done in occupied areas; whereas, dissatisfaction towards cycling is 96.4%. Dissatisfaction with internal buses and micro-buses is also high 94.7% and this was found actually because buses do not reach every neighbourhood in the town and because these buses or micro-buses are not enough and have no fixed daily time table, which is a main problem for residents.

	V. Satisfied	Satisfied	Neutral	Dissatisfied	V. Dissatisfied
Pedestrian Facilities	1.8% (SE=±3%)	78.9% (SE=±10.5%)		14.0% (SE=±9%)	5.3% (SE=±6%)
Cycling Facilities		1.8% (SE=±3%)	1.8% (SE=±3%)	25.0% (SE=±11%)	71.4% (SE=±12%)
Bus and Micro-bus		3.5% (SE=±5%)	1.8% (SE=±3%)	78.9% (SE=±10.5%)	15.8% (SE=±9%)
Highways System & Roads	12.3% (SE=±8.5%)	63.2% (SE=±12.5%)	3.5% (SE=±5%)	19.3% (SE=±10%)	1.8% (SE=±3%)

Table 8.6: Satisfaction with Internal Transport Infrastructure and Services in the Town.
Source: Field Survey Questionnaire, 2002.

External transport networks are much better than internal networks. 5.4% only are dissatisfied with it (table 8.7). The town is well connected to regional network and a road called Robaiki is developed penetrating the town and serving it from inside, especially its industrial areas, for inputs and outputs and at the same time connecting Cairo/Ismailia Road, which is in the north, with Cairo/Suez Road located in the south. These three roads are actually providing a good connection between Badr Town and Cairo, as well as, other regions around and all are ready and operating. On the other hand, nearly 94.7% of interviewees were not satisfied by trains and external busses connecting them with Cairo.

	V. Satisfied	Satisfied	Neutral	Dissatisfied	V. Dissatisfied
Roads and Motorways	26.8% (SE=±11%)	67.9% (SE=±12%)		5.4% (SE=±6%)	
Trains	1.8% (SE=±3%)	1.8% (SE=±3%)	1.8% (SE=±3%)	51.8% (SE=±13%)	42.9% (SE=±13%)
Buses	1.8% (SE=±3%)	1.8% (SE=±3%)	1.8% (SE=±3%)	75.4% (SE=±11%)	19.3% (SE=±10%)

Table 8.7: Respondents' Satisfaction with External Transport Connections to Cairo.

Source: Field Survey Questionnaire, 2002.

Respondents' dissatisfaction was found due to the low frequency of buses' journeys to Cairo, especially after 10.00pm, and also because buses stop in few places during their journeys. Furthermore, few buses are operating on Cairo/Badr road. The metro that links cities and towns with each others, which is the main transportation mean used by Egyptians is absent. This in fact affects residents feeling of dissatisfaction. Sometimes internal micro-buses that operate only inside the town are working also as an external means of transportation. However, buses serving the town to outside areas go only two times daily to Cairo and stop in one place only 'Ramsis Square' (focus group, 2002). This means that a high dependence on private car is required if one thinks of settling in

Badr Town. This is confirmed by figure (8.19) as 42% of residents own cars and most of them 39% go to work by them. 14% on foot as this percentage comes mainly from labours who live in places near industrial areas in the town where they work. Also 25% go to work by internal buses and the rest use other means such as private buses related to companies that a resident works with them.

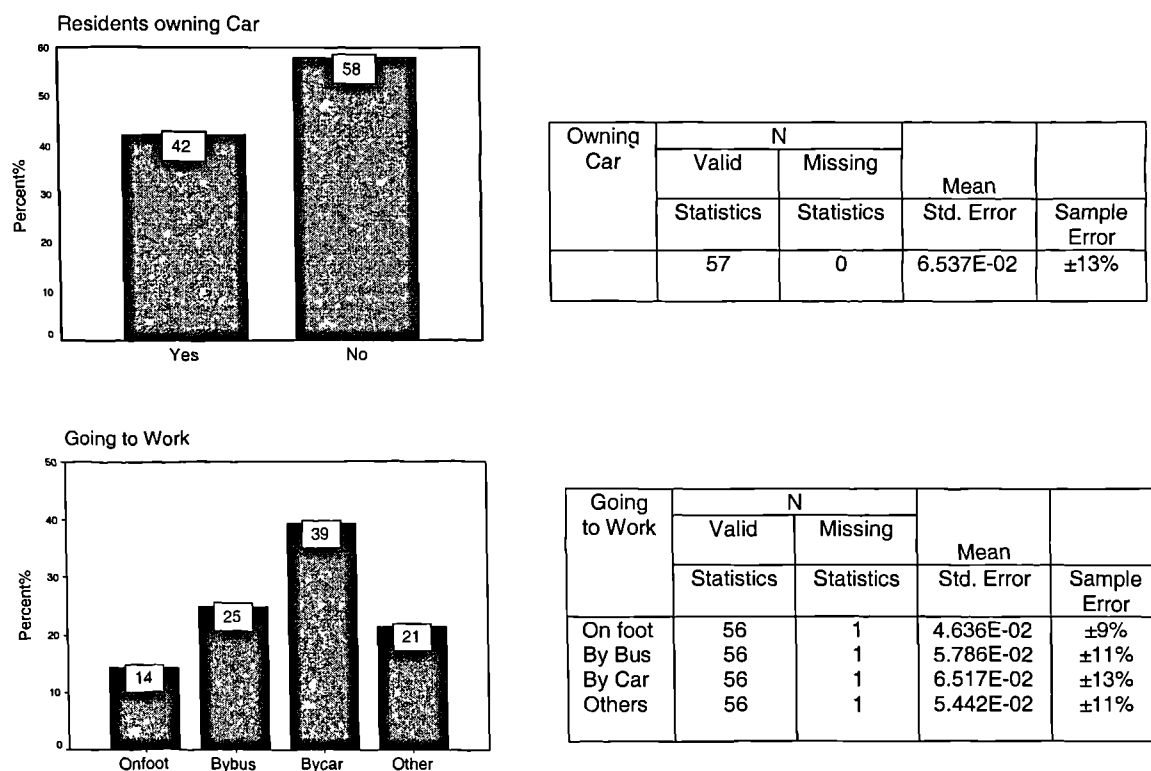


Figure 8.19: Means of Transportation Used by Respondents.
Source: Field Survey Questionnaire, 2002.

Water Supply, Sanitary, Sewage and Solid Water State:

The town is supplied by water through the water pipe line that comes from Ismailia canal through 10th of Ramadan Town, with a power of 8000 m³/day. There is also another water line under construction and is ready by 74%. However, water is pumped from four artesian wells, the capacity of each is 5000 m³ and they are satisfying the town. However, in the town there are only three districts, located in the north west of residential area, and also labour residential area located in the south-east are supplied

by water. The first district is supplied by 97% of its need, and the second by 72%, the third by only 32%, and the labour residential area water supply is almost ready (B.T.C, 2000, p.22). Also the three districts are equipped with sinatra sewerage networks whereas, the others are still under equipment. Water flows are treated in Oxidation ponds and there are special ponds for industry wastes (B.T.C, 2000, p.23).

Electrical Energy:

Electricity is provided to the first and second districts in the northern west residential area, and the enlightenment of Robaiki Road is ready. The industrial area that is constructed is already supplied by electricity. It is supported by power generating plants. Electrical networks, requested for pumping water and sewerage, are ready and operating (B.T.C, 2000, p.19). But the electricity supply is limited to few districts only, whereas the rest of the town is still without electricity.

8.3.8 Social Relations and Local Environment Characteristics

This part is to evaluate the responses of residents, after living in the town for a number of years, and their opinions towards social life and their social relationships with the whole environment around in the town. Figure (8.20) reflects respondents' answers about their social relations in the town; 88% for 'few relations' and only 9% for 'many relations'. This is due to that the number of residents, who are living in the town, is 1,358, quite so far behind what was planned (280,000) for the year 2000. The number of residents in Badr Town is not only small but, also, residents are not gathered in one area but spread in this empty town. In addition, there are no public places to meet except food shops and the mosque and even those are few. Figure (8.20)-right hand table- shows the categories of respondents social relations in the town: 58% among

'neighbours', 30% among 'similar social class', whereas only 12% among 'friends at work' and 2% among 'similar educational level'. However, in this town there aren't many choices for people to choose their relations because the number of residents is so small and job-opportunities are little as well. Therefore, finding social relations would be more with neighbours.

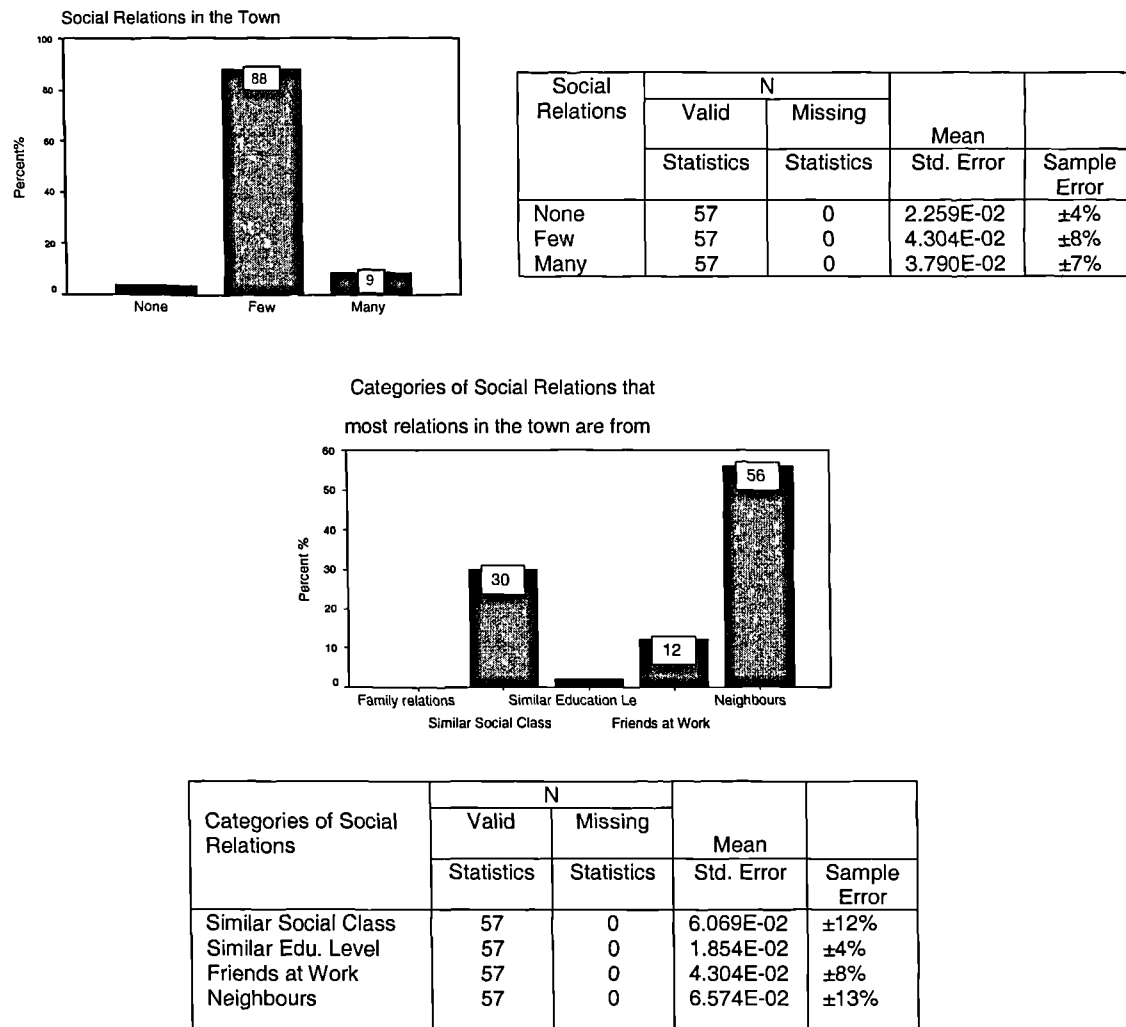


Figure 8.20: Social Relations in Badr Town Survey.

Source: Field Survey Questionnaire, 2002.

In fact, it is not easy to create a social balance especially in a new community with a mixed population coming from different social backgrounds with no previous relationships. In addition, having most relations in Badr Town among the same

category 'neighbours' means that probably they are from same income group level, as dwellings are clustered and distributed according to same income group level, which sometimes would have same social level but also this can't be generalised. However, again we can say that because of the few number of residents living in the town, it is difficult to judge this matter now. Attitudes of interviewees towards their neighborhood are to an extent positive in accordance to some characteristics, such as quietness, safety, and density. But on the other hand these attitudes are negative regarding services and green areas in the neighborhood (figure 8.21).

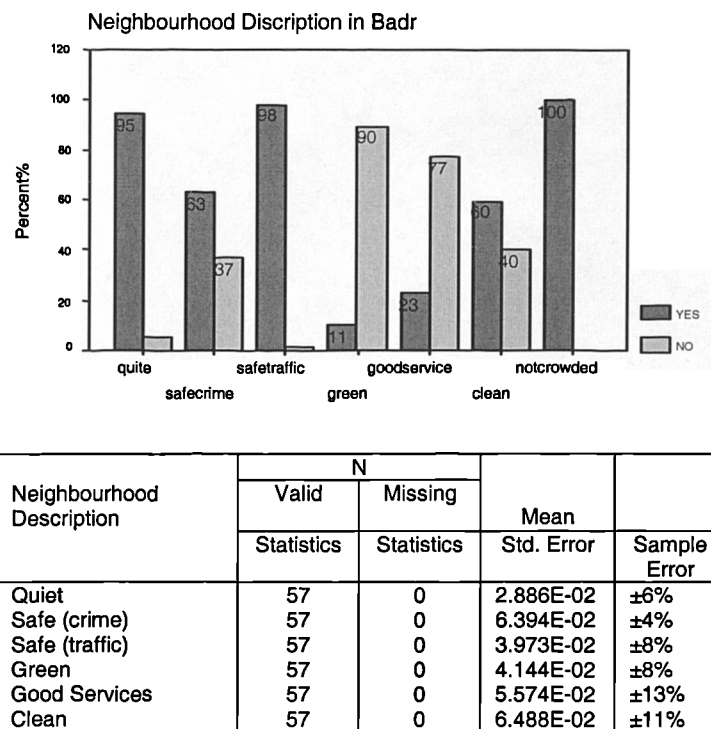


Figure 8.21: Respondents Attitudes to their Neighbourhood in Badr Town Survey.
Source: Field Survey Questionnaire, 2002.

8.3.9 Intention of Staying in the Town

One of the initial questions asked to residents in the social survey was about the main reasons for coming to live in Badr Town. It was found that 49% had moved mainly for dwelling reason, searching for a place of reasonable rent or price to pay; 36.8% came

looking for better environment to live in, they had escaped from the horrible pollution in big cities, especially Greater Cairo, and also away from congestion of people and transportation. Whereas only 15% moved for job reason, seeking opportunities of work in the industrial sector in the town.

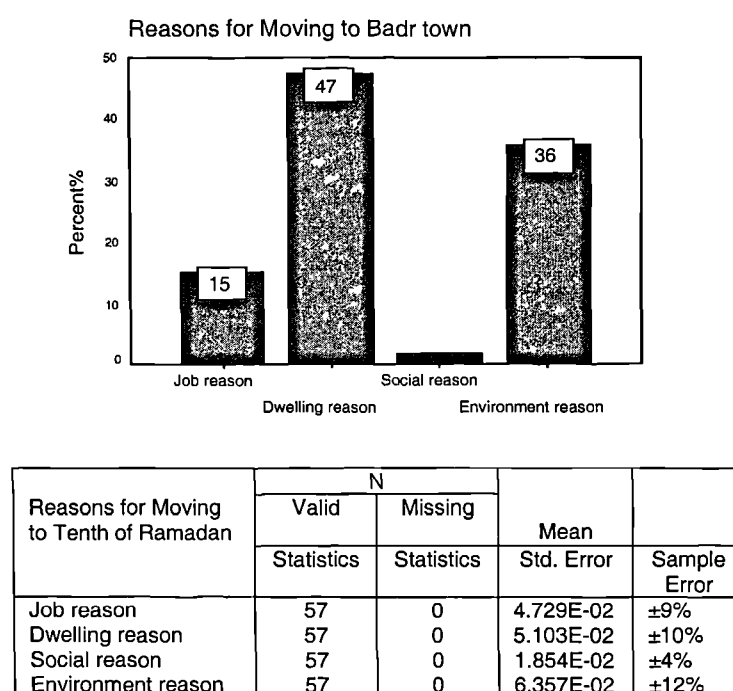


Figure 8.22: Respondents' Reasons for Coming to Live in Badr Town Survey.
Source: Field Survey Questionnaire, 2002.

On the other hand, the questionnaire was ended by a query that explores people's attitudes and desires to stay in or move out the town after all their answers to previous questions in the whole survey. The astonishing thing is that in spite of their dissatisfaction with the town components and services, still 32% of tound were fare willing to stay in the town. They say that this is because of the good healthy environment and fresh air, which are no more found in major cities (figure 8.23). The 68%, who represents the majority have opposite attitudes and are planning to move from Badr Town. Their reasons for moving out are mainly because of the social life that they enjoyed in Cairo particularly but are missing here, and also because of job-

opportunities as well as services. Besides, they think that they may get better dwellings in Cairo or other cities even if they were smaller, but at least have all services around. Few had answered that it is because of bad environment, and those had meant noise from neighbours or dirt left in some areas.

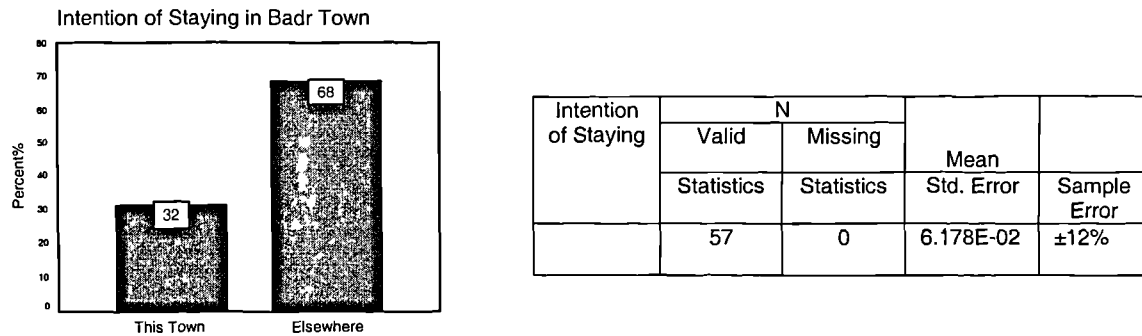


Figure 8.23: Respondents' Intention of Staying or Leaving Badr Town.
Source: Field Survey Questionnaire, 2002.

8.4 Testing the Effect of Some Factors on the Town's Life

The effectiveness of some factors, such as the availability of jobs, healthy environment, and comfortable dwellings, was tested in the previous case study, the Tenth of Ramadan Town. These factors will be tested in Badr Town as well to find out if some could have priority over the others, especially that residents of Badr Town complained, in the group meeting discussion, of particularly the unavailability of jobs in the town. It seems that this factor is much important for them regarding their stay in the town, as stated,

“Actually we came to Badr town hoping that we will find many job-opportunities especially in the industrial sector, as was advertised on the television and in the newspapers. After we moved into the town it was found that industrial projects were very few and others were still under construction and progressing very slowly, or even still not existing. Therefore, most of us are still working outside the town, in Cairo particularly, and find it difficult to get to work every day. This makes us think of returning to Cairo. We enjoy the fresh air here, in Badr, but this isn't a good enough reason for living in the town as working is more important”.

(Focus group meeting, 2002)

The Relation between Intention of Staying and Jobs availability

The first table (8.8) is a test between residents' intention of staying in the town and job-opportunities in it.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
JOBOPP * STAYING	57	100.0%	0	.0%	57	100.0%

Crosstabulation			Intention of Staying		Total
			This Town	Elsewhere	
Job-Opportunities	More than other places	Count	2	0	2
		Expected count	.6	1.4	2.0
	Same	Count	2	1	3
		Expected count	.9	2.1	3.0
	Less than other places	Count	11	13	24
		Expected count	7.6	16.4	24.0
	Much less than other places	Count	3	25	28
		Expected count	8.8	19.2	28.0
Total		Count	18	39	57
		Expected count	18.0	39.0	57.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.9412 ^a	3	.0030
Likelihood Ratio	15.1054	3	.0017
Linear-by-Linear Association	13.4924	1	.0002
N of Valid Cases	57		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is .63.

Table 8.8: Relation Between Availability of Jobs and Intention of Staying in the Town.
Source: By Researcher depending on the SPSS for Windows Programme Applications.

The first observation in the crosstabulation implies that there is a dependency between unavailability of jobs in the town and residents' decisions of moving out of the town. Respondents who are intending to leave the town and go elsewhere (13 & 25) are also those who find jobs in the town less or much less than other places, which indicates

that the availability of work opportunities is a vital factor in a new town life. Although the chi-square test output shows the relationship is significant at 0.003 level $P < 0.05$ which supposed to indicate that the relation is true and very strong, there are 4 expected cells in the crosstabulation which had counted less than 5. Even merging some rows in the table below (8.8-1) for the test to be carried out validly, had resulted, as well, with 3 cells in the table less than , therefore the chi-square test is less likely to be valid.

Cross tabulation			Intention of Staying		Total
			This Town	Elsewhere	
Job-Opportunities	More than other places	Count	2	0	2
		Expected count	.6	1.4	2.0
	Same	Count	2	1	3
		Expected count	.9	2.1	3.0
	Less than other places	Count	14	38	52
		Expected count	16.4	35.6	52.0
Total		Count	18	39	57
		Expected count	18.0	39.0	57.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.5644 ^a	2	.0375
Likelihood Ratio	6.6984	2	.0351
Linear-by-Linear Association	6.4392	1	.0112
N of Valid Cases	57		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .63.

Table 8.8-1: Relation Between Availability of Jobs and Intention of Staying in the Town.

Source: By Researcher depending on the SPSS for Windows Programme Applications.

The researcher tried to combine one more row in the table, but again there were few cells (2) of expected count less than five. So, still the relation is not confirmed. This is because of the insufficient amount of data and the sample size.

Cross tabulation			Intention of Staying		Total
			This Town	Elsewhere	
Job-Opportunities	More than other places	Count	4	1	5
		Expected count	1.6	3.4	5.0
	Less than other places	Count	14	38	52
		Expected count	16.4	35.6	52.0
Total		Count	18	39	57
		Expected count	18.0	39.0	57.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	5.947 ^b	1	.015		
Continuity ^a Correction	3.744	1	.053		
Likelihood Ratio	5.513	1	.019		
Fisher's Exact Test				.031	.031
Linear-by-Linear Association	5.843	1	.016		
N of Valid Cases	57				

a. Computed only for a 2x2 table

b. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 1.58.

Table 8.8-2: Relation Between Availability of Jobs and Intention of Staying in the Town.

Source: By Researcher depending on the SPSS for Windows Programme Applications.

The Relation between Intention of Staying and the Healthy Environment

The other test is between 'intention of staying in the town' and 'moving to the town for healthy environment (no pollution)'.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
NO POLLU * STAYING	57	100.0%	0	.0%	57	100.0%

Crosstabulation			Intention of Staying		Total
			This Town	Elsewhere	
Moving to Town (No Pollution)	Not for this reason	Count	13	23	36
		Expected count	11.4	24.6	36.0
	For this reason	Count	5	16	21
		Expected count	6.6	14.4	21.0
Total		Count	18	39	57
		Expected count	18.0	39.0	57.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.9289 ^b	1	.3351		
Continuity Correction ^a	.4468	1	.5038		
Likelihood Ratio	.9520	1	.3292		
Fisher's Exact Test				.3893	.2542
Linear-by-Linear Association	.9126	1	.3394		
N of Valid Cases	57				

a. Computed only for a 2x2 table

b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.63.

Table 8.9: Relation Between Healthy Environment and Intention of Staying.
Source: By Researcher depending on the SPSS for Windows Programme Applications.

The cross-tabulation shows that there is no dependency between the two variables, as the 16 respondents who had moved to the town for this reason are still intending to leave it and go elsewhere. This is confirmed by the chi-square test as $P = 0.335 > 0.05$ thus the two variables are independent.

The Relation between Intention of Staying and Satisfaction with Dwellings

The final test is between respondents' intention of staying and their attitudes towards their dwellings in the new town.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
WHIDWELL * STAYING	57	100.0%	0	.0%	57	100.0%

Cross tabulation			Intention of Staying		Total
			This Town	Elsewhere	
Which Dwelling	This one better	Count	12	19	31
		Expected count	9.8	21.2	31.0
	Previous one better	Count	6	20	26
		Expected count	8.2	17.8	26.0
Total		Count	18	39	57
		Expected count	18.0	39.0	57.0

Chi-Square Tests					
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.5994 ^b	1	.2060		
Continuity Correction ^a	.9577	1	.3278		
Likelihood Ratio	1.6253	1	.2024		
Fisher's Exact Test				.2592	.1640
Linear-by-Linear Association	1.5713	1	.2100		
N of Valid Cases	57				

a. Computed only for a 2x2 table

b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.21.

Table 8.10: Relation Between Town's Dwellings Situation and Intention of Staying in the Town.

Source: By Researcher depending on the SPSS for Windows Programme Applications.

The cross-tabulation shows that there is no dependency, because the results are nearly equal, as 20 of the respondents who find their previous dwelling better are intending to move from the town, and also 19 respondent (nearly same number) who find their dwelling in the new town better are still intending to move out of the town. This is confirmed by the chi-square test which shows that there is no relationship as $P=0.206 > 0.05$.

Thus, previous tests indicated that the decision of moving or staying in the town was not affected by the healthy environment or by respondents' attitudes towards their dwellings, whereas it could be affected by the unavailability of jobs in Badr town more than the other factors tested, but however, the chi-square test did not confirm this fact.

8.5 Conclusion

From previous description and analysis and also the number of population occupying the town, it is obvious that Badr Town is lacking so many things. Firstly, industry is

lacking policies of attraction, the town is in a competitive situation with the 10th of Ramadan Town and, therefore, incentives and investing facilities from the government are required to encourage it. Secondly, good building performance is also required, as many existing dwellings are in a bad physical situation from outside and from inside (if putting aside residents efforts in renewing them), this is in addition to the lack of any architectural touch in the design of these buildings (obvious in the pictures of this chapter). Thirdly, public services, infrastructure and internal roads are far behind the schedule, representing a large unutilized capital, difficult connection with areas surrounding and means of transportation are very few, residents are facing difficulties in reaching their places of work, etc. However, the results of Badr town survey were subject to sampling error that ranged between +13% and -13% (at the 95% confidence level), so the results of this town is slightly less reliable than the results of the Tenth of Ramadan Town.

Certain amenities are abundant, others are missing, and as a result there is very slow and little migration of people to Badr town. Construction works are going so slowly due to lack of funds, and because the private investors are reluctant in not participating in the implementation process of the town. This indicates that projects in the town were performed more as a construction task, in accordance with the master plan as a map, than a process developing successively, item by item, by need and necessity. Proper management and coordinated implementation are missing. The Government now is intending to sell this town, and some others as well, totally to the private sector to complete their development projects. But actually, if this happens probably the town's situation may become worse. The private sector would be concerned with profits and interests more than to achieve a self-sufficient and independent town.

Actually, incentives are important to be given to private-sector to come and invest in the town, instead of suggesting selling it as a whole. Then the revenues of these investments could be devoted to complete other lacking services, and the rest of housing sector constructions, as a next step. The town is in a real need of more financial and managing support to complete developing its projects, particularly those attractive projects, such as the industrial developments, medical resorts and tourism areas. Those projects would increase the job-opportunities, thereby, attract more people to come and live in it. In fact, starting again with housing sector projects, before building attractive projects, would be useless and a waste of time and money. A brief of the town's main problems and future prospects and suggestions is displayed in the diagram below.

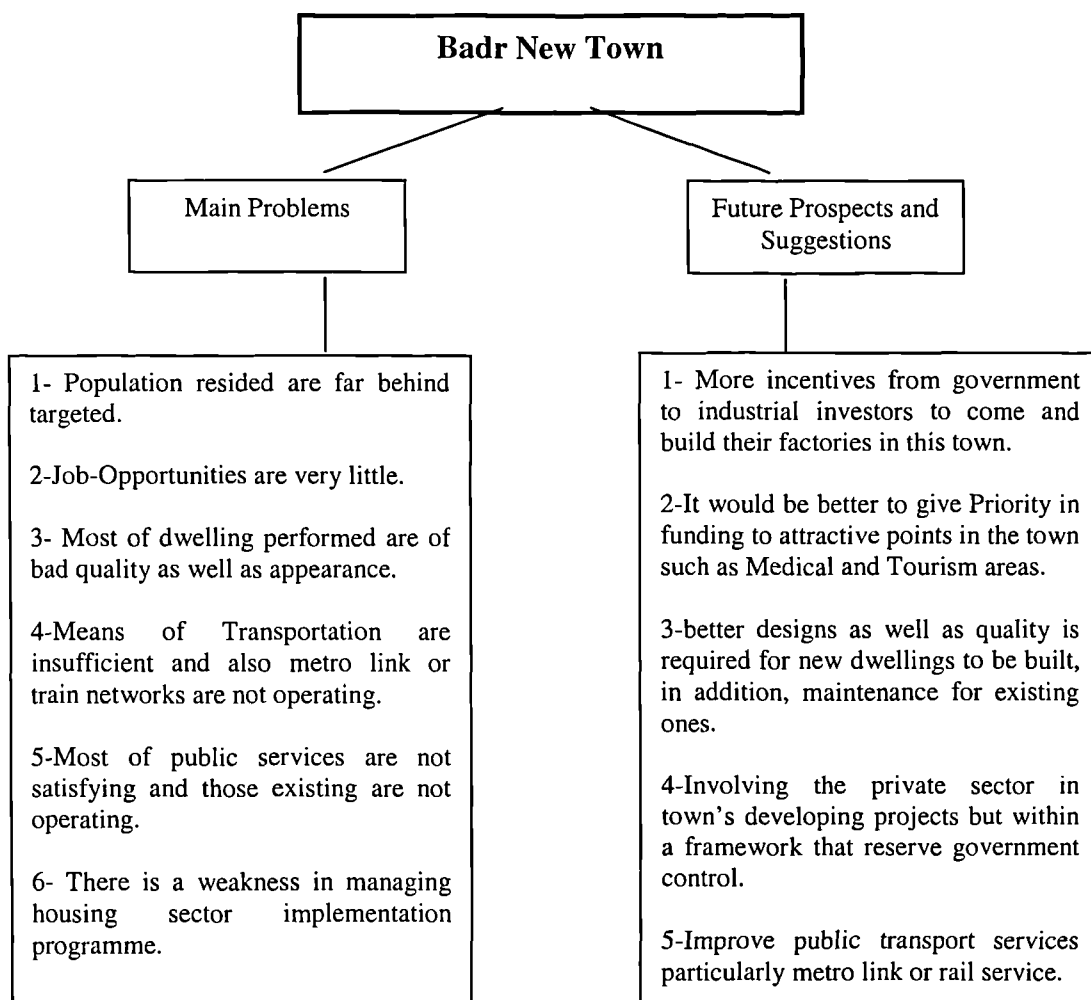


Figure 8.24: Main Problems and Future Prospects in Badr Town.

Source: By Researcher.

Basically, this case study had the worst situation among the three cases and in the following chapter the third town will be explored which also contains a small number of population occupying it, but is better than this town, regarding its development works progress.

Chapter 9:

Shekh Zayed Town (Third Case Study)

9.0 Introduction

This chapter is about the third new town investigated, that is, the Shekh Zayed town. It is from the third generation of new towns in Egypt. It was determined in 1995 by a presidential decree No. 325, issued by President Husni Mubarak. A scholarship was awarded by prince Shekh Zayed, the governor of Abu-Dhabi State, to sustain the development of this town. Therefore, the town was given his name (Ministry of H.U.NUC, 1998, p. 281). It is built merely for housing purposes. There are no special economic bases, such as industry, agriculture, etc. The town depends entirely for such services on the Six of October Town, which is a few kilometers away from it. However, the town has some attractive entertainment activities situated along the 26th of July Road. The Shekh Zayed town is located out of the Ring Road, west of Greater Cairo, and to the east of the 6th of October. It is 38 km from the centre of Cairo, and situated in a naturally and environmentally distinguished area, due to its vicinity to the pyramids plateau, and its site is 226 m above sea level. The site of the town is surrounded by three main roads: the 26th of July Road, Waslet Al Dahshoore Road, and Cairo/Alexandria Road (NUCA, 1996c, p.27).

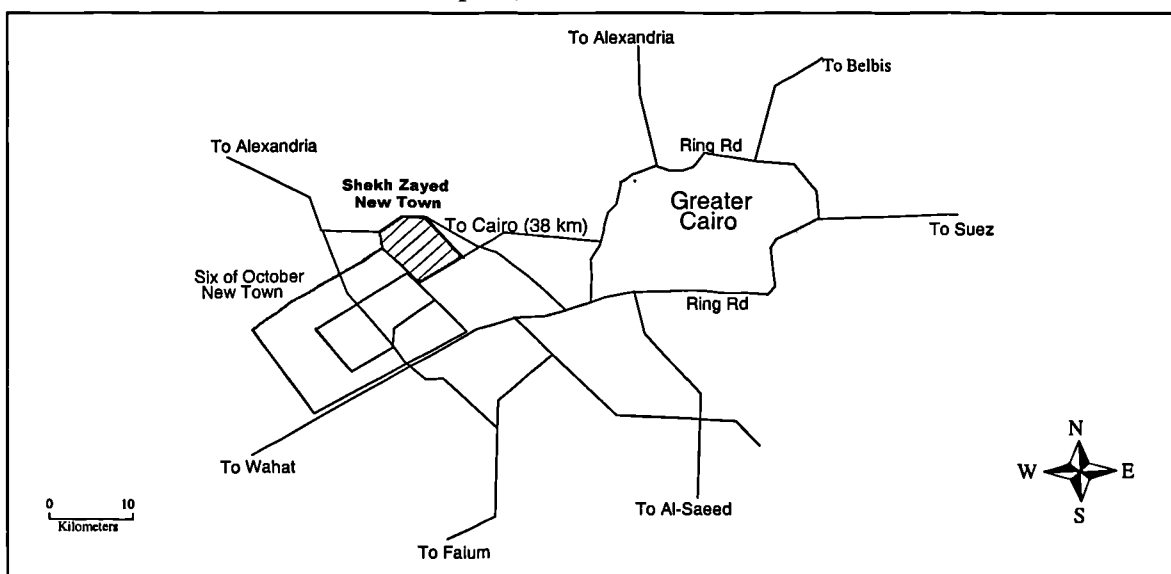


Figure 9.1: Site Location of Shekh Zayed Town.

Source: NUCA, 2001, p.3.

9.1 Aims and Planning Concepts of Shekh Zayed Town

The aim of building the town is to absorb a great proportion of the population increase in Greater Cairo, and to put an end to the encroachment on the agricultural lands, limiting informal expansions by encouraging the growth of urban centres in the desert and especially activating the Cairo/Alexandria desert axis for this purposes. In the planning process of the town, the following concepts were considered:

- 1-The location of the town is to be selected very near to Greater Cairo Ring Road, to help in facilitating the attraction of a great part of the population increase and urban development outside Cairo.
- 2- The Master plan should have the capacity to absorb 450,000 residents and therefore, it should provide different levels of housing with complete public services, infrastructure, recreational areas and open spaces.
- 3- Public services should be well distributed on wards, neighborhoods, etc according to their needs.
- 4- A big Entertainment centre is to be created on the 26th of July Road and to be considered as a regional centre.
- 5- Good and easy connection should be provided between the town and 'mother city', Greater Cairo, through regional road network.
- 6- At least 45,000 job-opportunities, the town should provide in the service sector.
- 7- Participation of the private sector should be encouraged, from the beginning, in the developing process of the town.

(DRTPC, 1996, p.21-24)

Preparation of plans had actually started in 1989 and the site was previously called 'compound A6 & B6', but later, after getting the prince Shekh Zayed's scholarship, it was named after him. The actual start was in 1996 and the developing process

progressed well thereafter. The government had determined the year 2017 as a targeted year for the work to be completed. The total area of the town is 40 km², of which 1 km² only is for green belt and the remaining 39km² is for built-up area. The town consists of residential areas, commercial and public services areas, tourism, and entertainment areas (table 9.1). The master plan of the town is displayed in figure (9.2).

Land Use	Area km ²	% of Total Urban Area
Residential Area	29	74%
Commercial & Public Services Area	9	23%
Tourism & Entertainment Area	1	3%
Total Built-up Area	39	100%

Table 9.1: Land-Use of Built-Up Area in Shekh Zayed Town.

Source: M.H.U.NUC, 2000b, p.81.

9.2 Financing and Investment in Shekh Zayed Town

Until the end of the year 2000, it was estimated that the public sector had spent nearly 1.3 billion Egyptian pounds on the town, distributed on different sectors. About 542 millions EP were spent on the residential sector; 144 million EP on public services; 453 million EP on water, sewerage, electrical networks; 60 millions EP on internal roads; and 40 EP millions on green areas. Whereas, the private sector, represented by companies specialized in housing projects and also individual investors, had invested about 400 million EP on housing and entertainment projects (ShZ, T.C, 2001, p.80). The government determined the policy of encouraging private capitals to be invested from the beginning and gave them great support and facilities. This is to attract them more in order to accelerate the development process of the town and complete it so to start its life soon, instead of falling in the same problems of delay, which happened in other towns. As Eng Muhammad stated that,

“About 22% of housing size developed in the town till now is performed by public sector; whereas, the rest of housing size, is performed by private sector. The government is thinking of selling the rest of the undeveloped land as well in the town to private investors”.

(Eng. Muhammed Al Jawhari, planning engineer in Town Council)

This is, in addition to the scholarship awarded by the prince of Abu-Dhabi State, that is about 200 million dollars, as a support from him to finance some public projects in the town, such as the public hospital, the requirements for water supply and other different public projects (Ministry of H.U.NUC, 2000b, p.82).

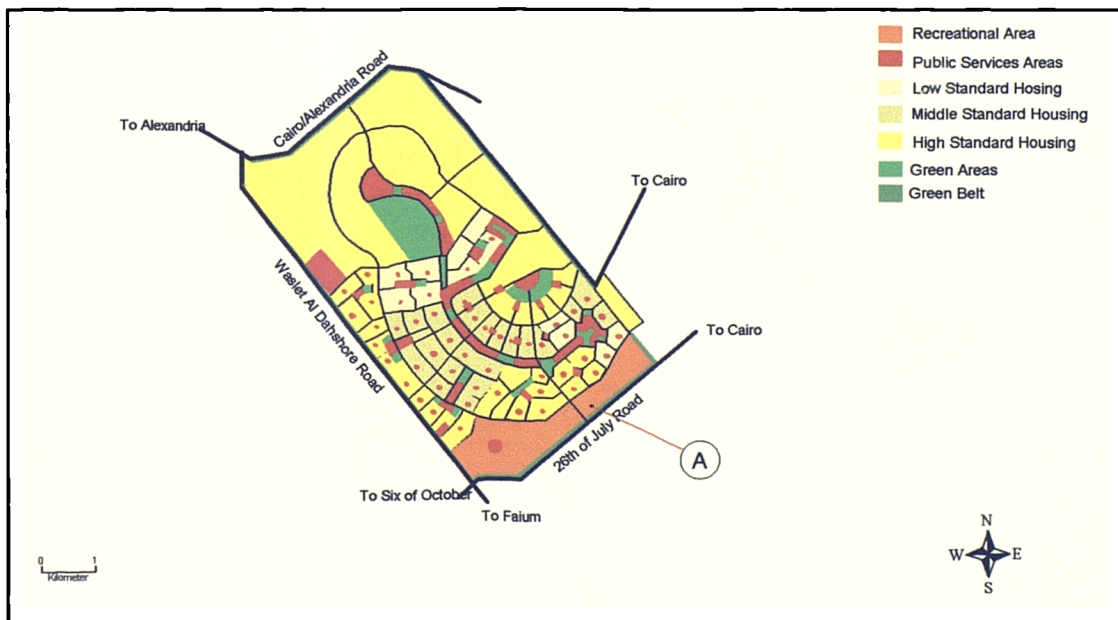


Figure 9.2: Master Plan of Sheikh Zayed Town.

Source: NUCA, 1996c, p.28.

9.3 Sheikh Zayed Town Components (Comparison between Target and Achievement)

In the following paragraphs there will be a comparison between the components of the town as planned in the master plan and as performed in its actual or current situation. This comparison is based on documentary evidence, expert interviews and the questionnaire survey in Sheikh Zayed town.

9.3.1 Population

The town is planned to accommodate 450,000 residents in the targeted year 2017 but till now there are only 5,000 inhabitants occupying it (ShZ.T.C, 2001, p.5). Actually, this figure was taken from the town council because CAPMAS censuses for this town are not recorded yet, as these censuses are produced from the government every 10 years, such as 1976, 1986, 1996, 2006, etc. This town however, was not ready for occupation until recently, therefore, no one was living there in 1996, and this investigation had taken place in 2002. Construction works started in the town in 1996 but was accelerated recently as (52 & 44 % nearly most of the interviewees) had started moving to town from 0-2 years before and very few had moved before. This is actually normal because the town is still in its beginning stages of its life. People find this town not far away from Cairo, especially after finishing development in the part of the Ring Road that links Shekh Zayed town, and other towns as well located on the same side, to Cairo. The ring Road had a great effect on encouraging more people to move recently (Eng. Mustafa Abd Al-Monem, planning engineer in Sh.Z.Town Council).

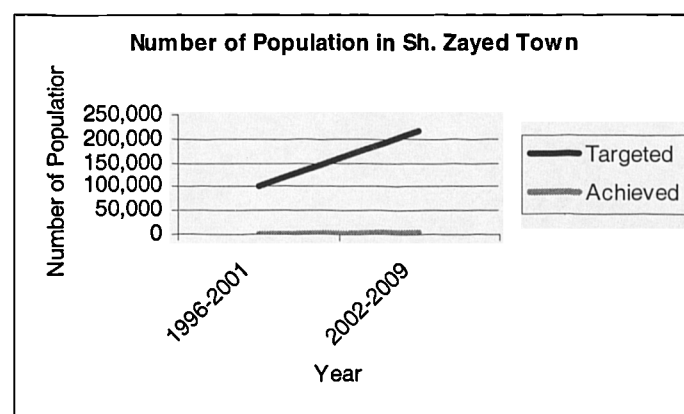


Figure 9.3: Comparison Between Population Targeted and Achieved in the Town.
Source: ShZ.T.C, 2001, p.5.

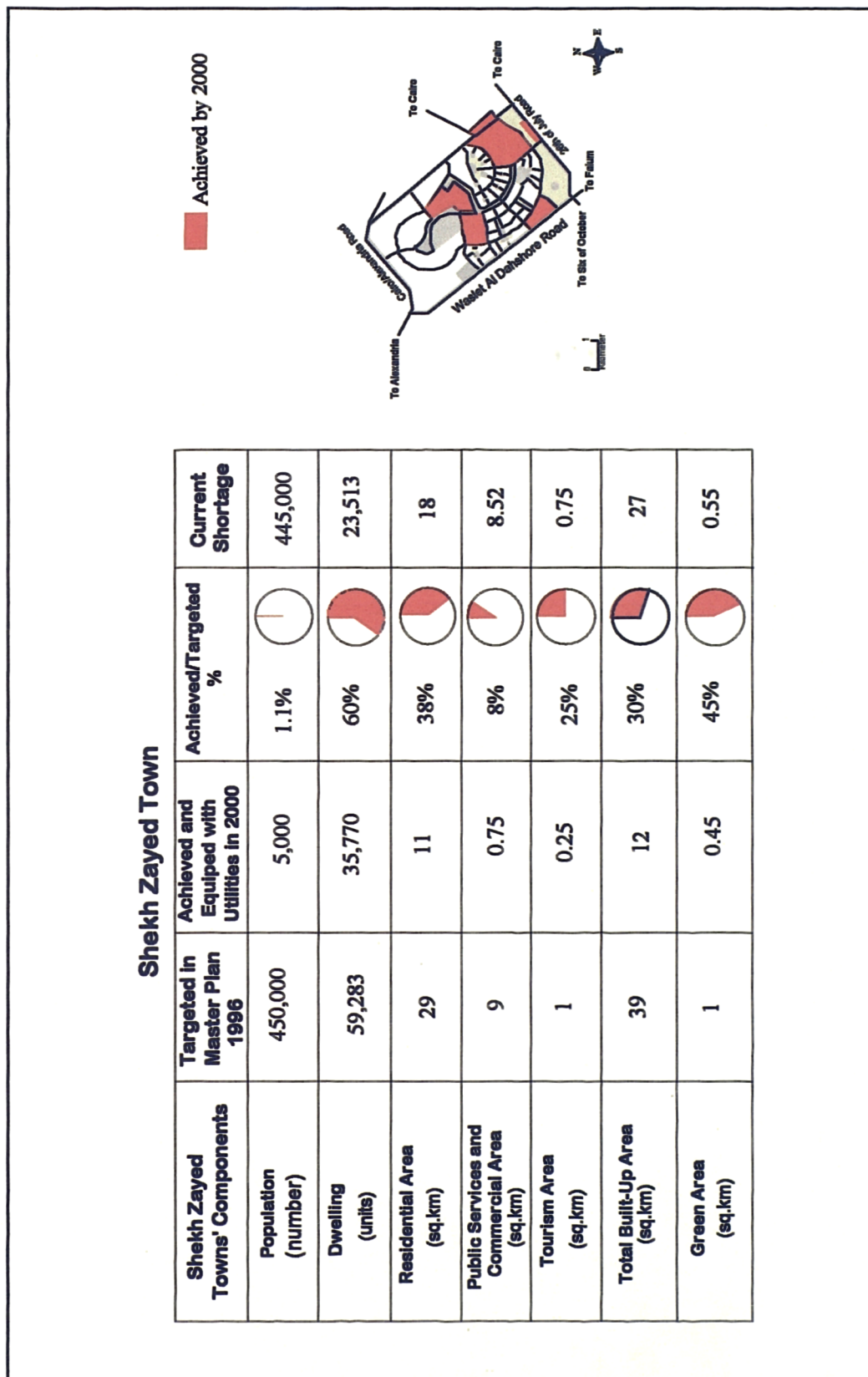
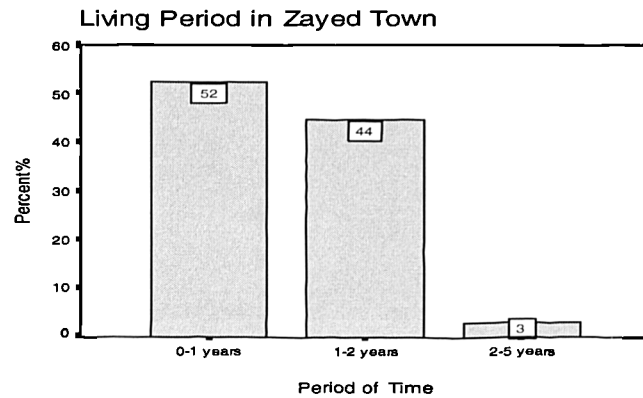


Figure 9.4: Comparison Study of Town's Components between Target and Achievement.
Source: By Researcher based on Shekh Zayed Master Plan 1996; Ministry of H.U.NUC, 2000 ; and Town Council Report, 2001.



* 1-2 years means that from 1 year to less than 2 and so on for the other periods.

Figure 9.5: Respondent's Year of Transferring to Town.
Source: Field Survey Questionnaire, 2002.

9.3.2 Housing

In Shekh Zayed town, the total area designed for residential use is 29 km², divided into 17 wards, that include all together about 80 neighbourhood units which include different types of buildings, including five levels of housing in the master plan. These levels are classified as:

1-Low-income group level housing: represents nearly 15% of the total housing size in the town. Each unit has an area of 60-90 m²/unit, performed by public sector and some are built by the public-private sector (co-operation consortiums). Dwellings of this level are arranged in terraced buildings of 4-5 floors.

2-Middle income group level housing: this level represents 10% of the total housing size in the town and also is developed mainly by the public sector, with an area ranging between 80-125 m²/unit. Those dwellings are the second type arranged in semi-detached buildings (sharing the stairs) of 3-4 floors.

3-Youth housing: forms 7% of the total housing area in the town, performed by the government and those are the smallest units in size with an area of 70m²/unit. These dwellings are arranged in terraced buildings as well and are of 4-5 floors.

4-Upper-middle income group level housing: forms 15% of total housing area in the town, performed mainly by the private sector, with a built-up area of 125-240 m² for each unit. This type is of 1-2 floors detached houses and semi-detached houses.

5-Upper-income group level or deluxe housing: this represents the highest percentage in the housing area, nearly 53% of the total. Most of them are semi-detached houses or villas. They are of 240-350 m² built-up area per unit. This type is of 1-2 floors.

Basically, the third and the fourth types are located mainly on the boundaries of the town to give a good attractive view and elevation to the town from outside (DRTPC, 1996, p.32; NUC.IC, 1998, p.17).

Twelve wards from the seventeen residential wards were to be developed by the private sector. The first ward is 'Jazeera ward', on an area of 0.21km²; the second is 'Rabwa ward', on an area of 1.32 km², 0.84km² of which is devoted for Golf games with a centre for different activities; the third is 'Karm' ward, on an area of 0.20km²; the fourth is 'Nada' ward on an area of 0.32 km² and located on the 26th of July Road; the fifth is 'Beverly Hill' ward, it overlooks Cairo/Alexandria desert road with 4 km² elevation whereas, the whole area of the project is 10.70 km²; the sixth is 'Bell Vell' ward, on an area of 0.28km²; the seventh is 'Mohandiceen's Garden' ward (figure 9.7), on an area of 0.42 km²; the eighth is 'Zayed 2000' ward on an area of 0.42 km²; the ninth is 'Moon Land' ward, on an area of 0.85 km²; the tenth is 'United Nations Workers' ward, on an area of 0.25km²; the eleventh is 'Royal City' ward, on an area of 0.45km²; and the final one is 'Sulymania's Garden' ward, on an area of 1.22km² (ShZ.T.C, 2001, p.29-47).

In these private projects, only neighbourhoods that include villas are gathered as cells agglomerations (clusters). Each cell is surrounded by a fence that has special entrances with private securities and not any one can go in. In spite of explaining the questionnaire survey to the security officers there and showing them the permission that had been given from Ministry, they didn't allow entry and said that permission from the ministry is not enough. They have their own special private administration and so permission should be given by the private manager of each of these agglomerations. Most of private managers were on holiday at the time of the research field survey. However, a few villas were found without security, therefore, it was possible to include them in the survey. Actually, occupiers of those neighborhoods are from the very high class in the community and they come to their dwellings on weekends and holidays.

In the current state, the residential areas built and equipped by utilities form 11 km², nearly 38% of what was planned and there are 35,770 dwelling units performed (ShZ.T.C, 2001, p.29). It was noticed that the design of the buildings in Shekh Zayed Town are different from those in the previous new towns investigated (Badr & Tenth of Ramadan). It is obvious in this town that expert architects have planned and designed the buildings and a lot of money had been spent on them. This is probably because they are funded by private sector companies specialized in urban development and the housing projects see (figure 9.6).

In the field survey questionnaire, different types of dwellings were included in the sample investigated in the town. There are 33% semi-detached houses (upper-middle income group); 16% dwellings in terraced buildings (low-income group); 48% dwellings in semi-detached buildings (middle-income group); and 3% from villas

(upper income group). Actually, there are many villas built in the town, but the reason for taking only this small percentage from the villas for the questionnaire is because of the high privacy and security that was mentioned before.

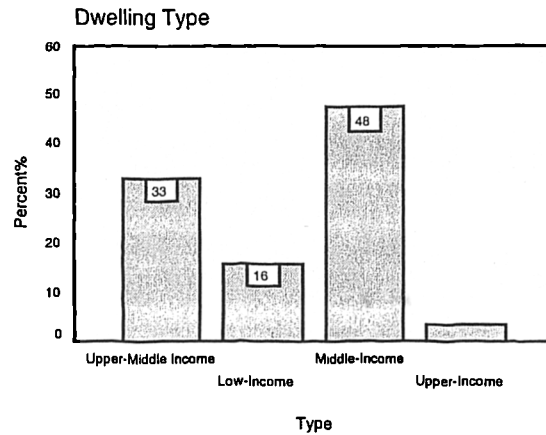


Figure 9.6: Percentages of Dwellings' Types Selected in Shekh Zayed Town Survey.
Source: Field Survey Questionnaire, 2002.

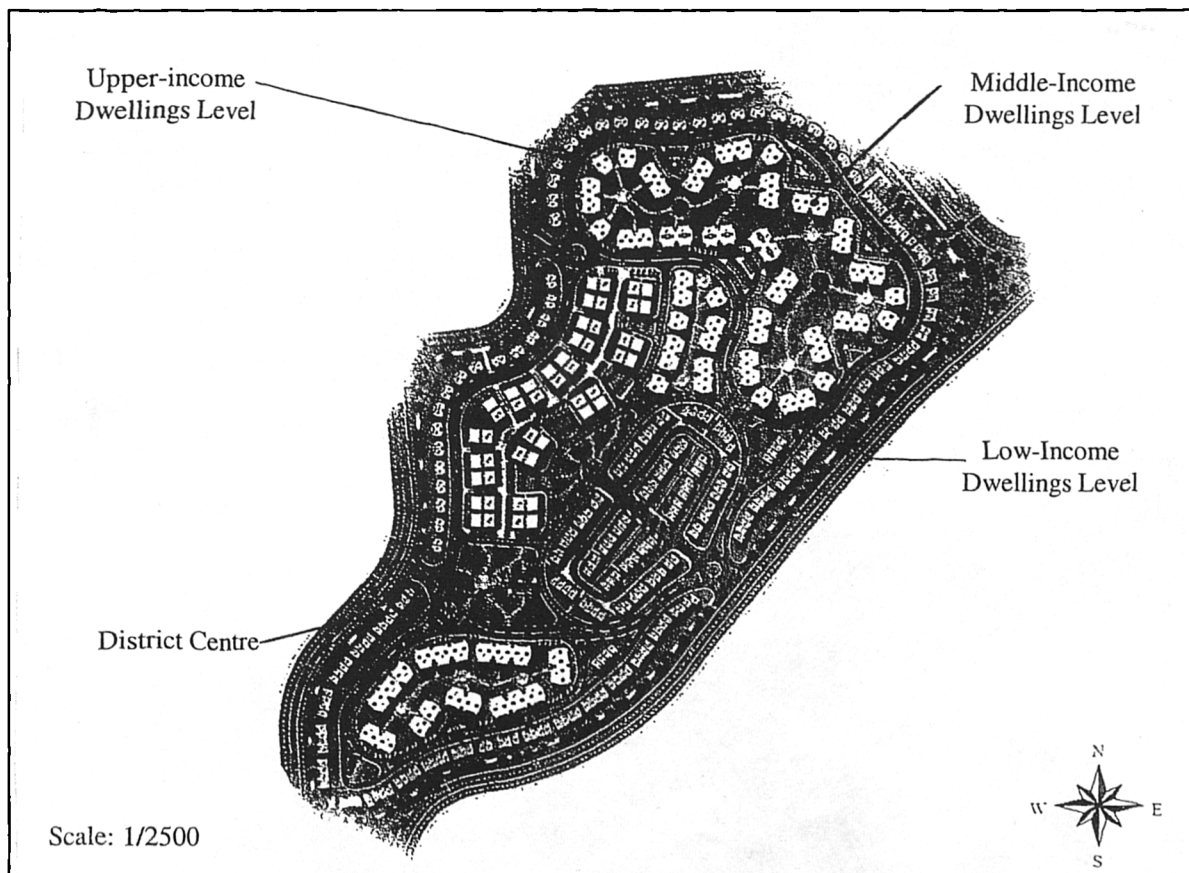


Figure 9.7: Plan of Neighborhood Unit in 'Mohandiceen's Garden' Ward.
Source: ShZ.T.C, 2001, p.43.



Figure 9.8: Low-Income Group Level Dwelling Buildings.
Source: Research Visit to Town, 2002.



Figure 9.9: Middle-Income Group Level Dwelling Buildings.
Source: Research Visit to Town, 2002.

A visual survey of the dwellings physical condition was carried out at the town during the questionnaire survey. The results of the visual survey that are represented in figure (9.10) shows that most of the dwellings investigated are in average and good condition externally. This is also confirmed by the pictures demonstrated in this chapter. Regarding dwellings condition from inside, the figure shows that only 8% of dwellings are in poor condition from inside, which indicates that housing is in a good conditions in the town. In addition, parking is available for most of dwellings as 60% of investigated dwellings are provided with parking place (figure 9.11).

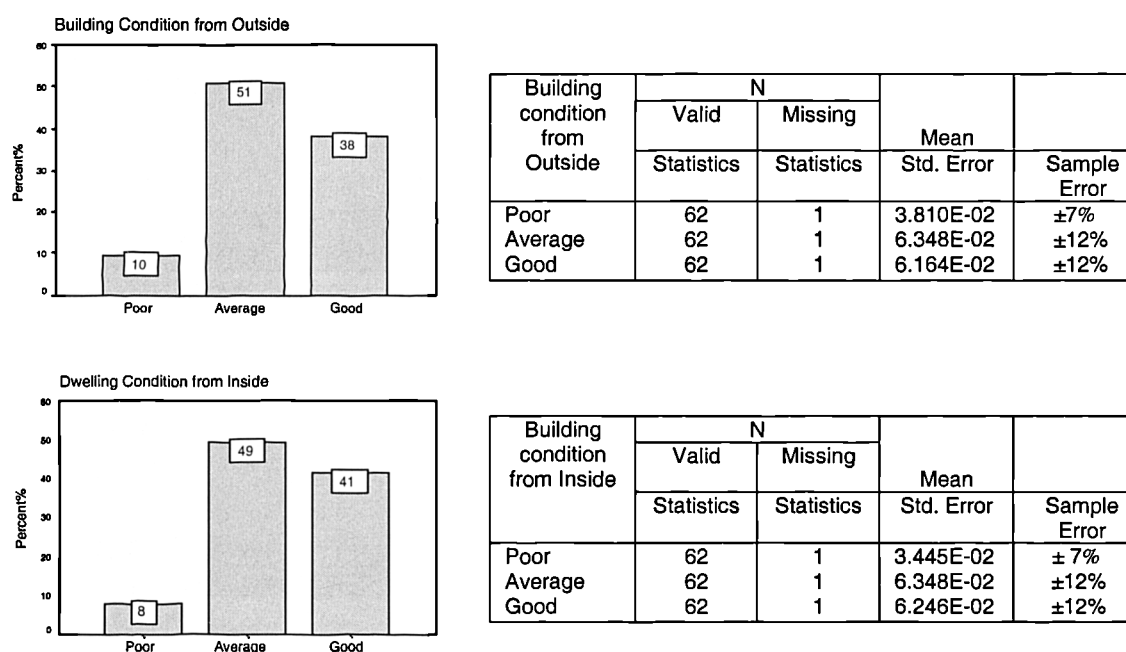


Figure 9.10: Physical Conditions of the Dwellings in Shekh Zayed Town Survey.
Source: Field Survey Questionnaire, 2002.

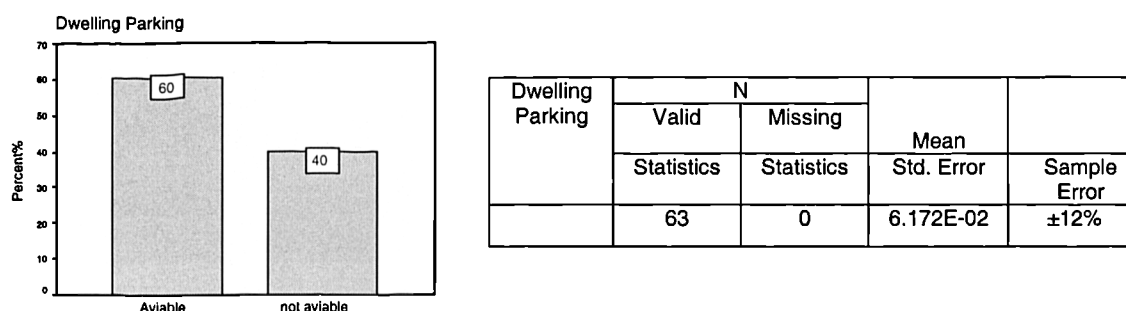


Figure 9.11: Dwelling's Parking in Shekh Zayed Town Survey.
Source: Field Survey Questionnaire, 2002.

According to the questionnaire survey the majority (75%) of respondents preferred their new dwellings to their previous ones (figure 9.12). Attitudes of those who had chosen this town, were due to some reasons, such as the availability of sufficient rooms in the new dwelling, better physical conditions from inside, and the sun that enters their homes. Such advantages they miss in Cairo. On the other hand, 25% were unhappy with their new dwellings because either they were dissatisfied with the number of rooms or were dissatisfied with the physical conditions inside their homes. However, those respondents are living mainly in the low-income group level dwellings.

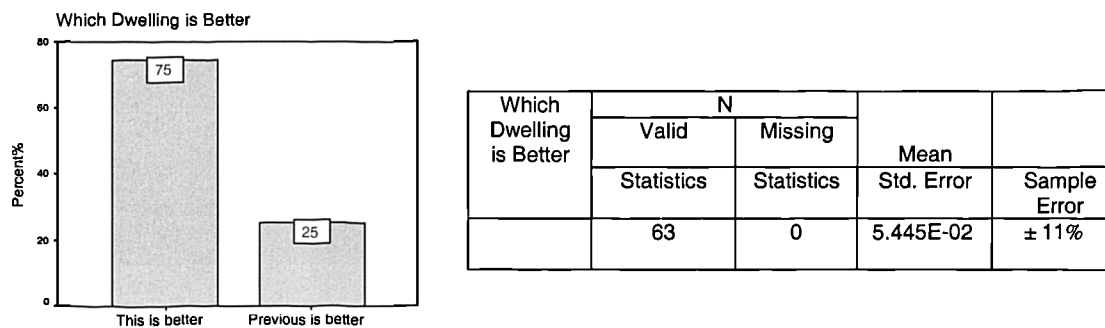
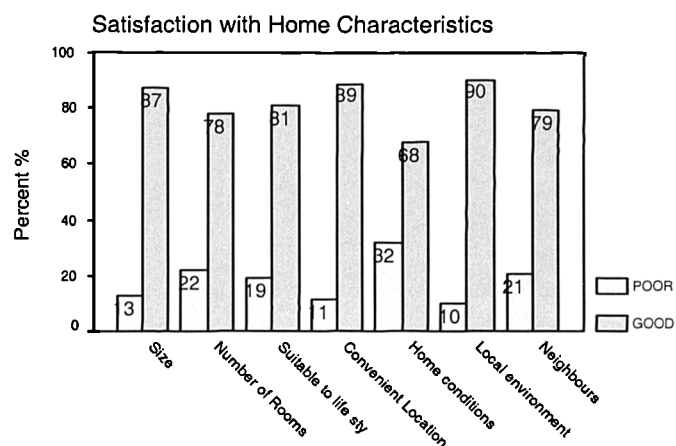


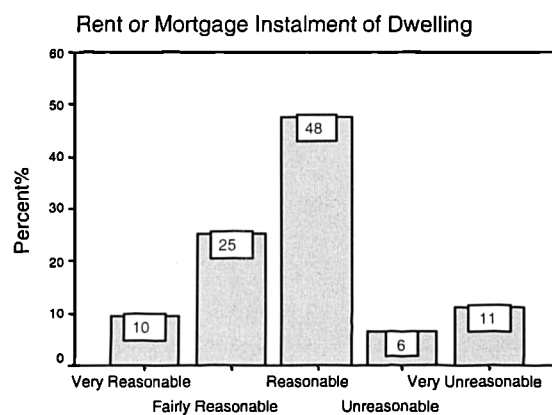
Figure 9.12: Respondents' Attitudes Towards their Dwellings in the Town Survey.
Source: Field Survey Questionnaire, 2002.

As far as the dwellings characteristics are concerned, respondents' attitudes were demonstrated in figure (9.13) as the following: (very unsatisfactory & unsatisfactory) in one column, and (satisfactory & good & very good) in another column. It appears that residents are, in general, happy with their homes characteristics with regard to the size, the number of rooms, the location of the dwelling, its suitability to their life style, local environment, and also the neighbours. Whereas, very few between 10% and 30%, were found dissatisfied, mainly with the home condition from inside and the number of rooms provided in their dwellings was less than required.



Home Characteristics	N		Mean	Std. Error	Sample Error
	Valid	Missing			
	Statistics	Statistics			
Size	63	0	4.237E-02		±8%
No. of rooms	63	0	5.219E-02		±10%
Suitability to life style	63	0	4.942E-02		±10%
Convenient location	63	0	3.942E-02		±8%
Home condition	63	0	5.877E-02		±11.5%
Local environment	63	0	3.779E-02		±7%
Neighbours	63	0	5.131E-02		±10%

Figure 9.13: Satisfaction with Home Characteristics in Shekh Zayed Town.
Source: Field Survey Questionnaire, 2002.



Dwelling rent or mortgage Installment	N		Mean	Std. Error	Sample Error
	Valid	Missing			
	Statistics	Statistics			
Very Reasonable	63	0	3.779E-02		±7%
Fairly Reasonable	63	0	5.455E-02		±11%
Reasonable	63	0	6.294E-02		±12%
Unreasonable	63	0	2.992E-02		±6%
Very Unreasonable	63	0	3.942E-02		±8%

Figure 9.14: Respondents' Attitudes Towards Dwellings' Price or Rent.
Source: Field Survey Questionnaire, 2002.

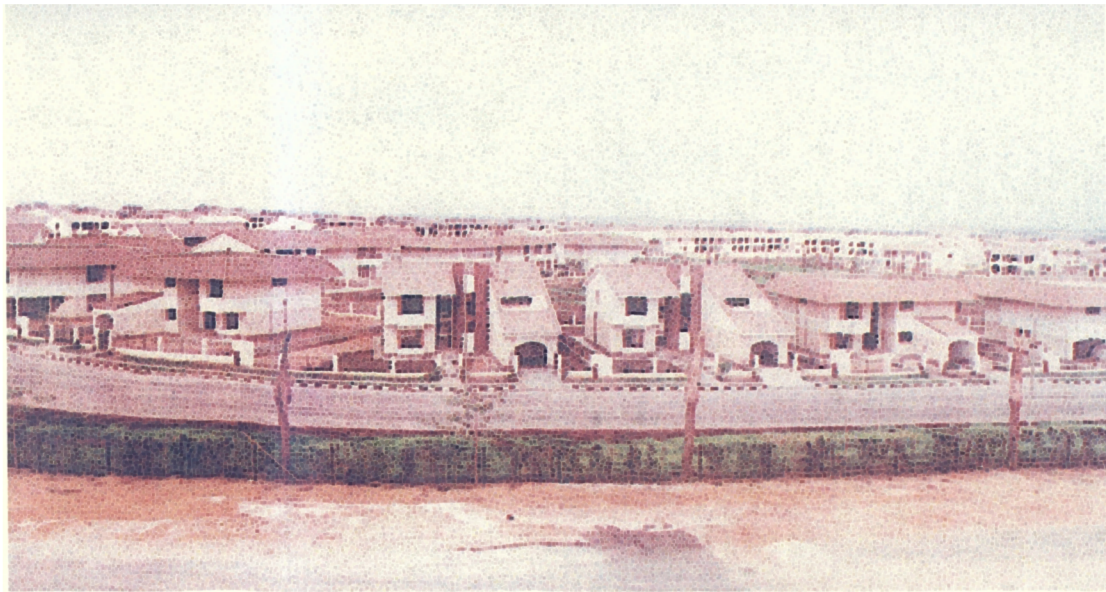


Figure 9.15: Upper-Middle Income Group Level Dwelling Buildings.
Source: Ministry of H.U.NUC, 2000b, p. 84.

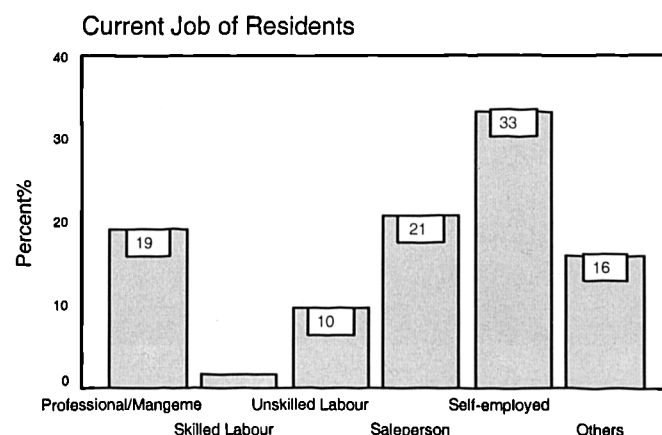


Figure 9.16: Upper-Income Group Level Dwellings with their gardens (Luxury Villas).
Source: Research Visit to Town, 2002.

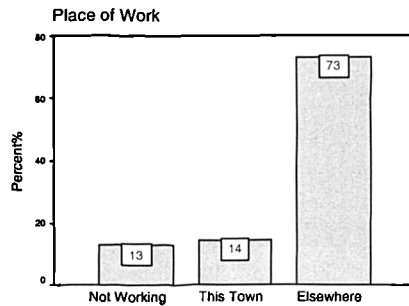
Most respondents were happy with the rent or price they were paying for their dwellings, as 48% find it reasonable, 25% find it fairly reasonable, and 10% replied by very reasonable, whereas, only 17% were not happy with it. Probably, this satisfaction is because most of residents are from good income group level.

9.3.3 Employment and Job-Opportunities

In the Master plan, it was estimated that about 45,000 job-opportunities at least are to be provided through public services. But these services are still in their developing stages. Therefore, only few opportunities are available (Sh.Z.T.C., 2001, p.49). Basically, figure (9.17) shows that most of the residents in this town are self-employed, working in trade business or owning factories in other cities, etc; whereas, very few are labourers. This confirms that the residents of this town are mostly from upper middle and high class levels, who live in this town and work elsewhere, mainly in Cairo. Figure (9.17) shows that 73% of respondents are working elsewhere and 14% only are working in this town. Whereas, the rest are not working (retired mainly), they came to live in this town for a quiet and fresh healthy environment.



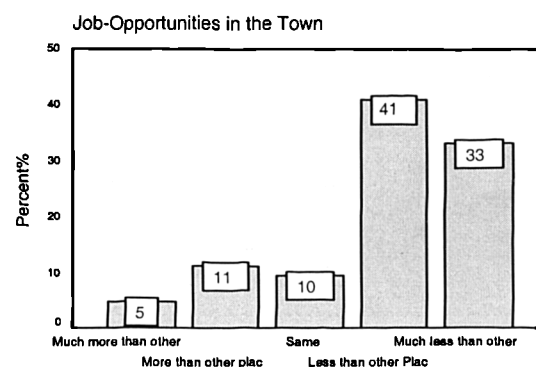
Job Type	N		Mean	Sample Error
	Valid	Missing		
	Statistics	Statistics		
Professional	63	0	4.942E-02	±10%
Skilled labours	63	0	1.253E-02	±2%
Unskilled labours	63	0	3.779E-02	±7%
Salesperson	63	0	5.131E-02	±10%
Self-employed	63	0	5.924E-02	±12%
Others	63	0	4.618E-02	±9%



Work Place	N		Mean	Sample Error
	Valid	Missing		
	Statistics	Statistics		
Not Working	63	0	4.237E-02	±8%
This Town	63	0	4.371E-02	±8.5%
Elsewhere	63	0	5.593E-02	±11%

Figure 9.17: Respondents' Place and Type of Work in Shekh Zayed Town.
Source: Field Survey Questionnaire, 2002.

However, residents are able to find jobs outside the town, but they still feel the lack of such opportunities in this town and finding them so little comparing to other places, as figure (9.18) shows that (41% & 33%) of responses replied that opportunities are less than other places. Although the town is planned with no certain economic base, such as industry or agriculture, but it was designed to provide a good amount of job-opportunities in public services. They were supposed to progress in parallel with housing projects developments, but in fact they did not. Most of the services in the town are either not operating or are not built yet.



Job Opportunities	N		Mean	
	Valid	Missing		
	Statistics	Statistics	Std. Error	Sample Error
Much more than other places	63	0	2.745E-02	±5%
More than other places	63	0	3.942E-02	±8%
Same	63	0	3.779E-02	±7%
Less than other places	63	0	6.196E-02	±12%
Much less than other places	63	0	5.924E-02	±12%

Figure 9.18: Respondents' Opinions About the Availability of Job-Opportunities in Shekh Zayed Town.

Source: Field Survey Questionnaire, 2002.

9.3.4 Commercial and Public Services

Commercial and public service areas planned in the master plan form 9 km², distributed between the main town centre and the neighbourhood units' centres. The main town centre is divided into six parts or six service areas. The first area is designed to contain a park, commercial services, secondary schools, and bus station. The second area is to contain a shopping centre, a mosque, a petrol station, a police station, and social clubs. The third part is a cultural area containing a public exhibition, a central library, open areas, and museums. The fourth part contains a hospital, a culture centre, a post office, open spaces and shopping center. The fifth part contains administrative and council services, business offices, and hotels. The sixth part is the entrance area which consists of Shekh Zayed park and a memorial. The neighbourhood unit centre serves about 5,000-7,000 residents and each neighbourhood is to include a primary school, 1-2 kindergarten, a mosque, and shopping centre. The ward centre serves about 20,000-30,000 people and includes primary and secondary school, a health unit, a cultural centre, a mosque, a park, a shopping centre, a police and emergency unit, clubs, and public squares (NUC.IC, 1998, p.26).

Currently, performed area of commercial and public services in the town is 0.75km². This includes only 2 primary schools in the ward 1 and ward 11; 2 secondary schools in the main town centre; one clinic in ward 1 and another one in ward 11, in addition to a general hospital, that is still under construction in the main town center. Shops are available in the town centre and also one in ward 1 and another in ward 11, in addition to shops in ward 13 and are found on the ground floors of some buildings there. Two mosques are built in ward 1 and 11; also a fire station and police station built near the town council. These are all the services available in the town now (ShZ.T.C, 2001, p.51). Asking residents about their satisfaction towards the shopping centre in their local area, as well as in the main town centre, it was found that nearly 50% of them were satisfied with shopping from the main town centre and 40% were satisfied with their neighbourhood's shopping facilities, and these are acceptable percentages.

	V. Satisfied	Satisfied	Neutral	Dissatisfied	V. Dissatisfied
Neighbourhood Centre	12.7% (SE=±8%)	36.5% (SE=±12%)	11.1% (SE=±8%)	25.4% (SE=±11%)	14.3% (SE=±9%)
Town Shopping Centre	11.3% (SE=±8%)	29.0% (SE=±11%)	8.1% (SE=±7%)	33.9% (SE=±12%)	17.7% (SE=±9%)

Table 9.2: Satisfaction with Shopping Facilities in Shekh Zayed Town Survey.

Source: Field Survey Questionnaire, 2002.

Whereas, looking at (table 9.3) that shows attitudes towards health services, it is obvious that all residents are not satisfied with hospital and emergency units in the town. This is because the hospital is still under construction. People are also unhappy with the number of clinics, but pharmacies are better, as they are always found in shopping centres. It is noticed in the table that there is a high percentage of 'neutral' responses and this is because most of residents do not use these services as they do not stay long in the town and visit it occasionally only. So, they do not feel the absence of these services much.

	V. Satisfied	Satisfied	Neutral	Dissatisfied	V. Dissatisfied
Hospital			20.6% (SE=±10%)	31.7% (SE=±11%)	47.6% (SE=±12%)
Emergency Units			22.2% (SE=±10%)	20.6% (SE=±10%)	57.1% (SE=±12%)
Clinics	3.2% (SE=±4%)	4.8% (SE=±5%)	20.6% (SE=±10%)	14.3% (SE=±9%)	57.1% (SE=±12%)
Pharmacies	12.7% (SE=±8%)	30.2% (SE=±11%)	14.3% (SE=±9%)	19.0% (SE=±10%)	23.8% (SE=±10.5%)

Table 9.3: Satisfaction with Health Services in Shekh Zayed Town Survey.

Source: Field Survey Questionnaire, 2002.

Satisfaction with Education Services that are available in the town is acceptable, in regard to kindergartens and primary schools. There are two primary schools built in the two wards that are occupied, and as the number of residents is only 5,000, they are satisfying. It is the same in regard to elementary and secondary schools. 2 secondary schools are built in the main town centre, but actually only one has an educational staff working in. Residents are dissatisfied with high education institutions; as they are not available in this town at all. Respondents who had replied by 'neutral' for this question are either those who do not have children or they use schools and educational centers in Cairo.

	V. Satisfied	Satisfied	Neutral	Dissatisfied	V. Dissatisfied
Kindergarten	41.3% (SE=±12%)	34.9% (SE=±12%)	19.0% (SE=±10%)	4.8% (SE=±5%)	
Primary School	34.9% (SE=±12%)	36.5% (SE=±12%)	22.2% (SE=±10%)	6.3% (SE=±6%)	
Elem. & Secon. School	27.4% (SE=±11%)	19.4% (SE=±10%)	38.7% (SE=±12%)	9.7% (SE=±7%)	4.8% (SE=±5%)
High Edu. Institutions			30.6% (SE=±11%)	17.7% (SE=±9%)	51.6% (SE=±12%)

Table 9.4: Satisfaction with Education Services in Shekh Zayed Town Survey.

Source: Field Survey Questionnaire, 2002.

Table (9.5) shows that most respondents feel the shortage of cultural centres, entertainment centers, in spite of the great entertainment projects along the 26th of July road. This project is in a good progress, but did not start operating until now, except one sport club within this project opened a short time ago and 7.9% are satisfied with it. Also, residents who are somehow satisfied with parks form 15.9% & 25.4% (nearly 40%), whereas, nearly 60% are dissatisfied. The town has green areas planted but not in all places where they should be.

	V. Satisfied	Satisfied	Neutral	Dissatisfied	V. Dissatisfied
Culture Centres			1.6% (SE=±3%)	4.8% (SE=±5%)	93.7% (SE=±6%)
Entertainment Centres	3.2% (SE=±4%)	4.8% (SE=±5%)	6.3% (SE=±6%)	27.0% (SE=±11%)	58.7% (SE=±12%)
Parks	15.9% (SE=±9%)	25.4% (SE=±11%)	17.5% (SE=±9%)	1.6% (SE=±3%)	39.7% (SE=±12%)
Sport Clubs		7.9% (SE=±7%)	33.3% (SE=±12%)	9.5% (SE=±7%)	49.2% (SE=±12%)

Table 9.5: Satisfaction with Cultural & Entertainment Services in Shekh Zayed Town.
Source: Field Survey Questionnaire, 2002.

It was found in the focus group meeting in the towns that residents are complaining mainly of the lack of government administrative offices or branches, as in the absence of such offices they are obliged to go to Cairo every day. Residents are also complaining of the lack of public means of transportation connecting the town to other cities around; and also of health services; as well as entertainment services. Actually, it was noticed that their needs of entertainment facilities came ahead of their needs to commercial or culture and education services (focus group meeting, 2002). However, this is due to the fact that, they come to town on holidays so they care more about having facilities for fun to enjoy their time more than having services for daily life.

9.3.5 Tourism Area

The tourism area is represented by the regional services located in the area along the 26th of July Road (figure 9.2). This area is divided into different sizes of lands including hotels, restaurants, clubs, exhibitions, dream parks and children's water plays (Crazy water). This is an attractive point in the town, along the road, and it forms part of the town elevations which is under construction. These projects are funded completely by private investors and hopefully they will be ready in a short time (NUCA, 2001, p.19).



Figure 9.19: (A in Figure 9.2) Entertainment Activities along the 26th of July Road.
Source: Ministry of H.U.NUC, 2000b, p. 82.

9.3.6 The Infrastructure

Roads and Transport Facilities:

Town's connection with Cairo, Alexandria, Six of October and Al Faium, is basically by the Greater Cairo Ring Road. This is through the south-east entrance on the 26th of July Road, as this road intersects the Cairo/Alexandria Desert Road at 30km from Cairo (NUCA, 1996c, p.27). Thus, the town is well connected with the environment around.

It was found from the field survey that the majority of residents occupying the town now own cars (63%) and so (52%) use this means of transport to go to work. Others who don't have cars, use public buses or micro-buses (27%), some use private companies' transport facilities provided by the companies in which they work (6%). Few go to work on foot, and also those who own shops in the same town (8%).

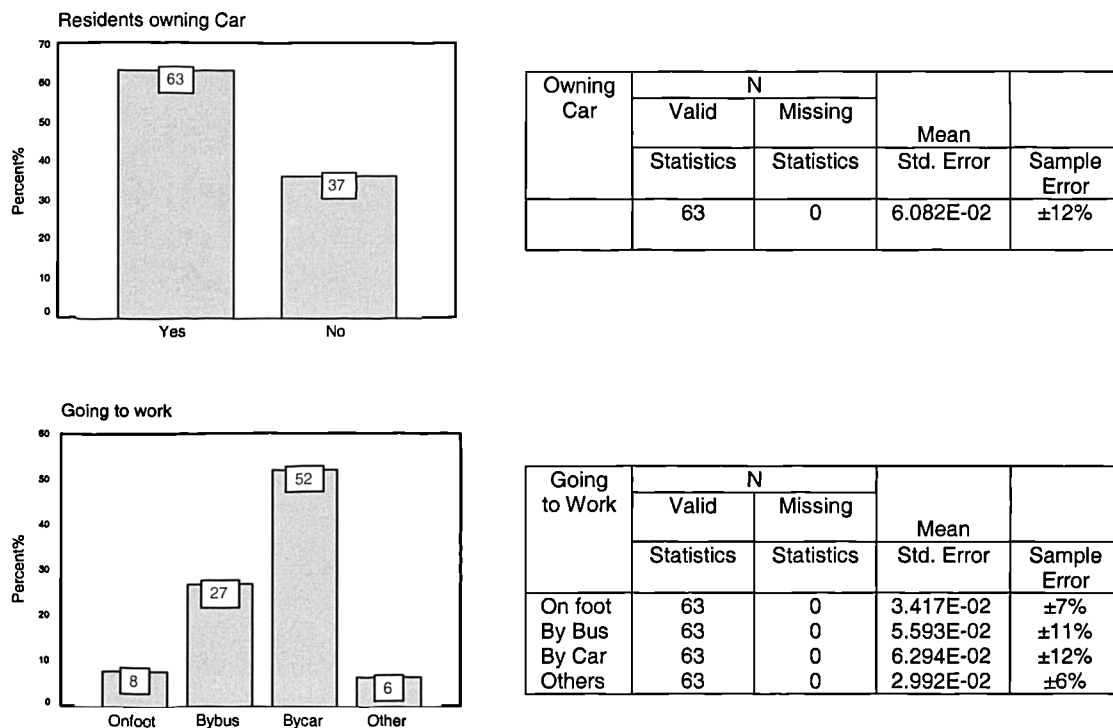


Figure 9.20: Means of Transportation of Respondents.

Source: Field Survey Questionnaire, 2002.

Most of interviewees are satisfied with internal transport roads for vehicles (figure 9.21), but table (9.6) showed that this satisfaction is not the same in regard to pedestrian ones, as some internal roads are still not completed. Cycling lines are not existing in streets, besides, buses or micro-buses operating inside the town are not satisfying because they do not reach all places in the town and because there are few number of buses or micro-buses serving the town. Although the number of residents in the town is so small, these residents need to use the bus frequently.

	V. Satisfied	Satisfied	Neutral	Dissatisfied	V. Dissatisfied
Pedestrian Facilities	2.7% (SE=±4%)	30.2% (SE=±11%)	1.6% (SE=±3%)	1.6% (SE=±3%)	54.0% (SE=±12%)
Cycling Facilities	4.8% (SE=±5%)	1.6% (SE=±3%)	3.2% (SE=±4%)	3.2% (SE=±4%)	88.9% (SE=±8%)
Bus and Micro-bus	3.2% (SE=±4%)		14.3% (SE=±9%)	25.4% (SE=±11%)	57.1% (SE=±12%)
Highways System & Roads	44.4% (SE=±12%)	38.1% (SE=±12%)	4.8% (SE=±5%)	1.6% (SE=±3%)	11.1% (SE=±8%)

Table 9.6: Satisfaction with Internal Transport Infrastructure and Services in Shekh Zayed Town

Source: Field Survey Questionnaire, 2002.



Figure 9.21: Internal Roads in a Housing Area in Shekh Zayed Town.

Source: Research Visit to Town, 2002.

Residents' attitudes towards external transport facilities of connection to Cairo are good, in regard to external roads and motorways, as Shekh Zayed town is close to Cairo Ring Road. In addition, three main roads surround the town providing good connection, connecting the town with the area around. But means of public transportation are not provided well, as nearly all respondents are not satisfied with trains, as they still don't exist in the town and people are actually waiting for the railway network that was planned to be provided and which is still under study. Residents are dissatisfied with

external buses as well, because of their low frequency and because they stop in only few places in Cairo. It is a tiring and costing trip to get to any place in Cairo by that.

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Roads and Motorways	60.3% (SE=±12%)	30.2% (SE=±11%)	1.6% (SE=±3%)	1.6% (SE=±3%)	6.3% (SE=±6%)
Trains			3.2% (SE=±4%)	15.9% (SE=±9%)	81.0% (SE=±10%)
Buses		9.5% (SE=±7%)	4.8% (SE=±5%)	28.6% (SE=±11%)	57.1% (SE=±12%)

Table 9.7: Residents' Satisfaction with External Transport Connections to Cairo.

Source: Field Survey Questionnaire, 2002.

Water Supply, Sanitary, Sewage and Solid Water States:

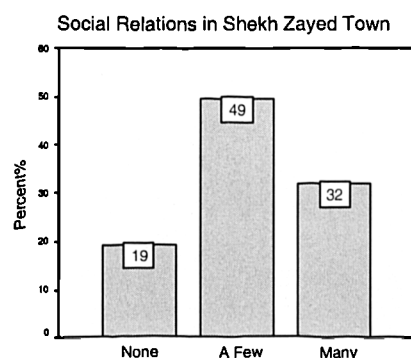
The main supply of water is through the 6th of October Town water plant, via 800mm pipeline, especially in early stages of construction. For permanent water supply source, the town will depend on two main lines with the capacity of 350,000³/day. These two networks are under construction and till now two branches were taken from them to feed wards 1,3,11, and 13: those wards have some residents occupying them, in addition to the main town centre and children water play land. An artesian well of 10,000m³ capacity and another one of 5000 m³ are designed to act as storage and balancing tanks. For sinatra sewerage system, a complete system of sewerage is constructed for collecting, transporting and treating for final disposal. The sewerage system of the project is designed according to the nature slops of the area, there is a difference in level, about 70 m, and, therefore, no pumping station is required and granite sewers are sufficient. The network is lapped towards Abu-Rawace station, which can be used to treat the effluent, as it has an excess capacity. This is in addition to the oxidation ponds that are used to treat waste flows from the settlement (DRTPC, 1996, p.46-48).

Electrical Energy:

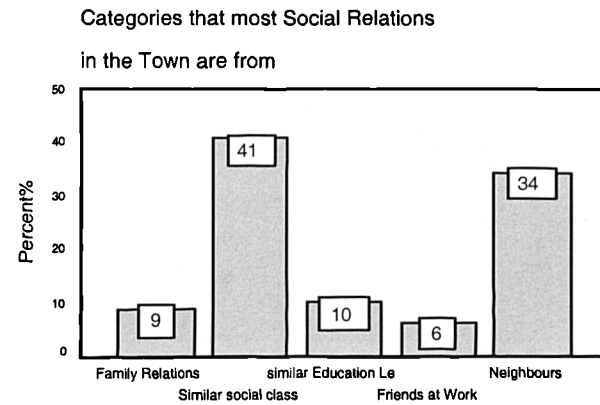
Providing the town with electrical energy to the town is through power plants constructed in the town, with a high energy to supply the whole area of the town. Cables are extended to the developed wards. Another power plant was constructed to supply the town with water. Although the system does not cover the whole area, but it is satisfying the number of residents occupying the town now (ShZ.T.C, 2001 p.58).

9.3.7 Social Relations and Local Environment Characteristics

Social Relations in this town are to an extent, more acceptable than in the previous case study of 'Badr Town'. It is noticed, in this town, that most of the residents are from relatively similar income-group level, which means that probably they also are from relatively similar social class. As figure (9.22) shows that relations between residents are 'few' about 49% and 'many' about 32%, which is a good sign for a new town, that is still in its developing stages. In addition, most of these relations are between groups of similar social level 41% and neighbours 34%. This indicates that chances for people to meet in the town is more in their neighbouring area than in public places, due to the fact that such places are very few.



Social Relations	N		Mean	
	Valid	Missing		
	Statistics	Statistics	Std. Error	Sample Error
None	63	0	4.942E-02	±10%
Few	63	0	6.298E-02	±12%
Many	63	0	5.877E-02	±11.5%

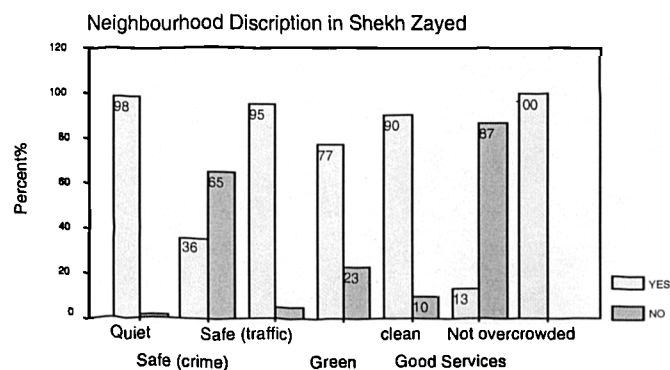


Categories of Social Relations	N		Mean	Sample Error
	Valid	Missing		
	Statistics	Statistics	Std. Error	
Family Relations	63	0	3.605E-02	±7%
Similar Social Class	63	0	6.196E-02	±12%
Similar Edu. Level	63	0	3.779E-02	±7%
Friends at Work	63	0	2.992E-02	±7%
Neighbours	63	0	5.968E-02	±12%

Figure 9.22: Social Relations in Shekh Zayed Town Survey.

Source: Field Survey Questionnaire, 2002.

Asking residents about their general feeling in their local neighbourhood unit, it was found that they are happy in it, regarding quietness, and safety for traffic, especially that the town is now of low density and they consider it a clean town. But on the other hand, residents have concerns about crimes except those who live in private secured clusters. Most residents are unhappy with services provided in their neighbourhood unit (figure 9.23).



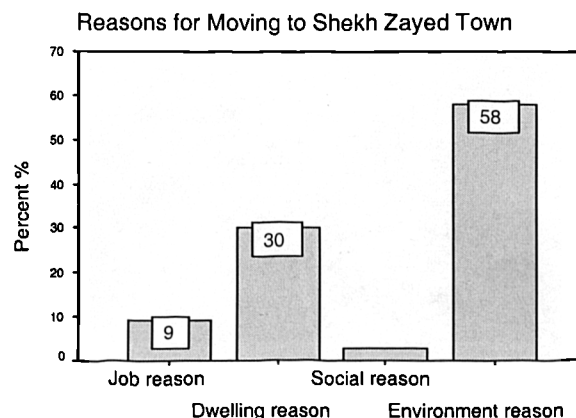
Neighbourhood Description	N		Mean	
	Valid	Missing		
	Statistics	Statistics	Std. Error	Sample Error
Quiet	63	0	1.763E-02	±3%
Safe (crime)	63	0	6.047E-02	±12%
Safe (traffic)	63	0	2.745E-02	±5%
Green	63	0	5.301E-02	±10%
Clean	63	0	3.779E-02	±7%
Good Services	63	0	4.237E-02	±8%

Figure 9.23: Respondents Attitudes to their Neighbourhood in Shekh Zayed Town Survey.

Source: Field Survey Questionnaire, 2002.

9.3.8 Intention of Staying in the Town

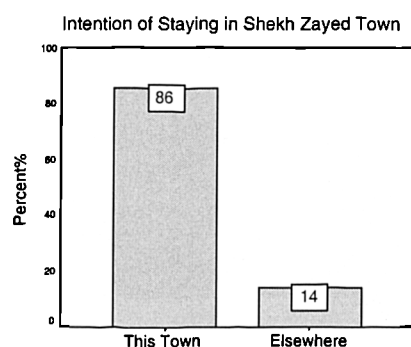
One of the initial questions asked to residents in the social survey was about their main reasons behind coming to live in Shekh Zayed Town. This was to find out what had attracted them to this town particularly. By analyzing their answers, it was found that most of them had moved to this town looking for a better environment to live in, with fresh air (58%); and also for good standards of dwelling units available in the town (30%); whereas, few had moved for job reasons (9%). Basically those are either those who are employed in the town council, in the schools, etc, or those who work in the 6th of October town which is close to Shekh Zayed town.



Reasons for Moving to Tenth of Ramadan	N		Mean	
	Valid	Missing		
	Statistics	Statistics	Std. Error	Sample Error
Job reason	63	0	3.605E-02	±7%
Dwelling reason	63	0	5.773E-02	±11%
Social reason	63	0	2.149E-02	±4%
Environment reason	63	0	6.218E-02	±12%

Figure 9.24: Respondents' Reasons for Coming to Live in Shekh Zayed Town Survey.
Source: Field Survey Questionnaire, 2002.

On the other hand, the last question asked to residents in the survey was about their intention to remain in the town or move. The figure below shows a good sign as 86% of respondents are intending to stay in the town despite of all their complaints regarding the shortage in services and facilities in this town. Only 14% are willing to move mainly because opportunities of work are so little or due to security reason and shortage of services, or even due to social isolation that they feel in this town.



Intention of Staying	N		Mean	
	Valid	Missing		
	Statistics	Statistics	Std. Error	Sample Error
	63	0	4.371E-02	±8.5%

Figure 9.25: Respondents' Intention of Staying or Leaving Shekh Zayed Town.
Source: Field Survey Questionnaire, 2002.

9.4 Testing the Effect of Some Factors on Towns' Life

Same factors, those were tested in the Tenth of Ramadan and Badr towns, are used here as well in order to find out how different were residents' attitudes of this town from those of the other case studies towards the same factors, which are supposed to be the most effective factors in a new town life. One of the residents in the town stated that,

“I own in the Shekh Zayed town a nice and very comfortable dwelling and this is actually what mostly attracts me to the town. My family and me spend our weekends and holidays here and enjoy it but we can’t think of settling down in this town permanently because jobs are so limited in it. However, most of the people here work outside the town”.

(Focus group meeting, 2002)

The Relation between Intention of Staying and Jobs availability

The first relation tested is between intention of staying in the town and jobs availability in it.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
JOBOPP * STAYING	63	100.0%	0	.0%	63	100.0%

Cross tabulation			Intention of Staying		Total
			This Town	Elsewhere	
Job-Opportunities	Much more than other places	Count	2	1	3
		Expected count	2.6	.4	3.0
	More than other places	Count	5	2	7
		Expected count	6.0	1.0	7.0
	Same	Count	6	0	6
		Expected count	5.1	.9	6.0
	Less than other places	Count	25	1	26
		Expected count	22.3	3.7	26.0
	Much less than other places	Count	16	5	21
		Expected count	18	3.0	21.0
Total		Count	54	9	63
		Expected count	54.0	9.0	63.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.9252 ^a	4	.1399
Likelihood Ratio	7.9498	4	.0934
Linear-by-Linear Association	.0729	1	.7871
N of Valid Cases	63		

a. 6 cells (60.0%) have expected count less than 5. The minimum expected count is .43.

Table 9.8: Relation Between Jobs Availability and Intention of Staying in the Town.
Source: By Researcher depending on the SPSS for Windows Programme Applications.

From the table (9.8), it seems that most of interviewees (25 & 16) who find jobs little in the town are still willing to stay in it. This is probably because people in this town are mostly working in trade (self-employed) as found in figure (9.17) and so they do not care much about job-opportunities and at the same time they are not the people who are in serious need of dwellings to live in, which are very difficult to find in Cairo, whereas in fact they come here for entertainment only on holidays. The value of (P) in the chi-square test is $0.14 > 0.05$ which means there is independency between the two variables, but despite that, the validity of the results needs to be viewed cautiously because there are 6 expected cells less than 5 in the cross tabulation. Even combining some rows in the table below (9.8-1) for the test to be carried out validly, had resulted as well with 2 cells in the table less than 5, therefore still the validity of the test is doubted.

Crosstabulation			Intention of Staying		Total
			This Town	Elsewhere	
Job-Opportunities	More than other places	Count	7	3	10
		Expected count	8.6	1.4	10.0
	Same	Count	6	0	6
		Expected count	5.1	.9	6.0
	Less than other places	Count	41	6	47
		Expected count	40.3	6.7	47.0
Total	Count		54	9	63
	Expected count		54.0	9.0	63.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.1053 ^a	2	.2117
Likelihood Ratio	3.5575	2	.1688
Linear-by-Linear Association	1.1905	1	.2752
N of Valid Cases	63		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .86.

Table 9.8-1: Relation Between Jobs Availability and Intention of Staying in the Town.
Source: By Researcher depending on the SPSS for Windows Programme Applications.

In the table below, the researcher tries to combine one more row, and the test resulted with one expected cell value less than 5, therefore the overall chi-square value is still doubted, this is due to the sample size.

Crosstabulation			Intention of Staying		Total
			This Town	Elsewhere	
Job-Opportunities	More than other places	Count	13	3	16
		Expected count	13.7	2.3	16.0
	Less than other places	Count	41	6	47
		Expected count	40.3	6.7	47.0
Total		Count	54	9	63
		Expected count	54.0	9.0	63.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.3491 ^b	1	.5546		
Continuity Correction ^a	.0314	1	.8593		
Likelihood Ratio	.3323	1	.5643		
Fisher's Exact Test				.6811	.4110
Linear-by-Linear Association	.3435	1	.5578		
N of Valid Cases	63				

a. Computed only for a 2x2 table

b. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 2.29.

The Relation between Intention of Staying and the Healthy Environment

Second relation tested is between 'intention of staying' in this town or elsewhere in the future and 'moving to the town for healthy environment (no pollution)'.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
NO POLLU * STAYING	62	98.4%	1	1.6%	63	100.0%

Cross tabulation			Intention of Staying		Total
			This Town	Elsewhere	
Moving to Town (No Pollution)	Not for this reason	Count	9	7	16
		Expected count	13.7	2.3	16.0
	For this reason	Count	44	2	46
		Expected count	39.3	6.7	46.0
Total		Count	53	9	62
		Expected count	53.0	9.0	62.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	14.8522 ^b	1	.0001		
Continuity ^a Correction	11.8466	1	.0006		
Likelihood Ratio	12.9799	1	.0003		
Fisher's Exact Test				.0006	.0006
Linear-by-Linear Association	14.6127	1	.0001		
N of Valid Cases	62				

a. Computed only for a 2x2 table

b. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 2.32.

Table 9.9: Relation Between Healthy Environment in the Town and Intention of Staying in it.

Source: By Researcher depending on the SPSS for Windows Programme Applications.

The cross tabulation demonstrates that there is a dependency between the two variables, as the 44 who moved for the healthier environment are also those who have chosen to stay in the town which indicates that the environment is playing an important role in attracting people to Shekh Zayed town. The chi-square test shows that $P < 0.05$, but there is one expected cell value less than 5, so, there is an indication of dependency but actually the validity of the results needs to be viewed cautiously because of the small expected frequency.

The Relation between Intention of Staying and Satisfaction with Dwellings

The final test is between respondents' 'intention of staying' and their attitudes towards their dwellings'.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
WHIDWELL * STAYING	63	100.0%	0	.0%	63	100.0%

Cross tabulation			Intention of Staying		Total
			This Town	Elsewhere	
Which Dwelling	This one better	Count	45	2	47
		Expected count	40.3	6.7	47.0
	Previous one better	Count	9	7	16
		Expected count	13.7	2.3	16.0
Total		Count	54	9	63
		Expected count	54.0	9.0	63.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	15.2055 ^b	1	.0001		
Continuity ^a Correction	12.1511	1	.0005		
Likelihood Ratio	13.2029	1	.0003		
Fisher's Exact Test				.0005	.0005
Linear-by-Linear Association	14.9641	1	.0001		
N of Valid Cases	63				

a. Computed only for a 2x2 table

b. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 2.29.

Table 9.10: Relation Between Satisfaction with Dwellings in Shekh Zayed Town and Intention of Staying in it.

Source: By Researcher depending on the SPSS for Windows Programme Applications.

Preliminary observation indicates that there is a dependency as the 45 who had chosen 'this dwelling is better' are the same who had chosen to stay in the town. In the chi-square the relationship is significant at the $0.0001 < 0.05$ level but there is one expected cell value less than 5. So, there is an indication of dependency but actually the validity of the results needs to be viewed cautiously because of the small number of (P) and the value of one of the expected cells. However, it could be assumed that the good quality of dwellings in the town was a vital factor in attracting residents to it.

Although none of the previous tests was confirmed statistically by the chi-square test due to the small size of the sample, they still gave an indication that the little availability of jobs did not affect the residents' decisions to move out of the town,

whereas good quality of dwellings and the healthy environment had affected it positively. However, although opportunities of work were not found much effective in the decision of Shekh Zayed residents to stay in the town, but as discovered before, this town had lost its main aim behind building it, as the private sector had turned it into a resort; whereas the Tenth of Ramadan and Badr towns were found more representative of a new town built for a permanent residence.

9.5 Conclusion

It appears from previous analysis and description of the town, that the speed of the construction in it is better than what was found in Badr. The development process had started in 1996 and nearly 30% of the town was completed. The residential sector particularly is active and housing buildings are in a good situation with attractive elevations from outside. Entertainment projects are in the same situation, although they hadn't started operating and people were still complaining about them, but they are under construction and are in their final stages of development. In the near future residents are going to enjoy entertainment activities. A great support of fund is given actually to housing and entertainment projects, but this progress in housing projects development was not accompanied with the same progress in providing services in the town. 8% only of public services and commercial areas planned in the master plan are performed, this is because public sector is financing these services and there isn't enough money, whereas, nearly most of housing projects are performed by private sector.

It is noticed from this town and Badr town, as well, that responsibility of developing the town's infrastructure, public services, and low-income dwellings are often left to the government to construct them. Whereas, the private sector is concentrating and

working on luxury projects that are of good profits. This is actually the reason for the imbalance and the gaps in the structure of the town, instead of growing in one harmony. In addition, looking at the number of residents in the town, which is 5,000 only, shows that, in spite of the progress achieved in the housing development process, the town also did not achieve its main aim in absorbing the population excessive growth in major cities, located in regions surrounding the town (sec. 9.1), particularly the category of people in Cairo who are in real need of accommodation. Whereas, if we look at it from another angle, through the opinions of current residents who are considering the town as a resort and place for spending holidays, it can be said that the town is in a good situation and most of occupiers are happy in it, and not willing to move out of the healthy environment.

It is clear that many things are lacking in the town. Public services need to be provided more, means of public transportation connecting different parts of the town together or connecting the town itself to Cairo at least should be supplied and sustained, and consequently, job-opportunities would start if that was to be provided, especially as the town is depending on services, mainly as an economic base. So, basically those gaps in the town's structure need filling. The town seems to become a resort for a high-class community that has the ability to own a car and not depends on Cairo's public services as they come to the town occasionally.

This town was suggested to be sold as a whole to the private sector, as some other towns in Egypt. Actually if this happens, the town would totally lose its main aim of developing it. Therefore, government involvement is vital in its life; otherwise the town would turn into a big leisure centre instead of a place for permanent residence. It would be better if the government decides a management programme and a framework for the

new developments in the town in future. This would control the private sector involvement and give more incentives, which could divert the private-sector interests towards low and middle-income level housing projects. Incentives are also important for the construction of public services as well, in order to be developed in parallel with the housing sector (neighbourhood by neighbourhood). Thereby employment opportunities would increase consequently, and in this way, active daily life will start in the town. A brief of the town's main problems and prospects, as well as suggestions, for its life in the future is displayed in figure (9.26).

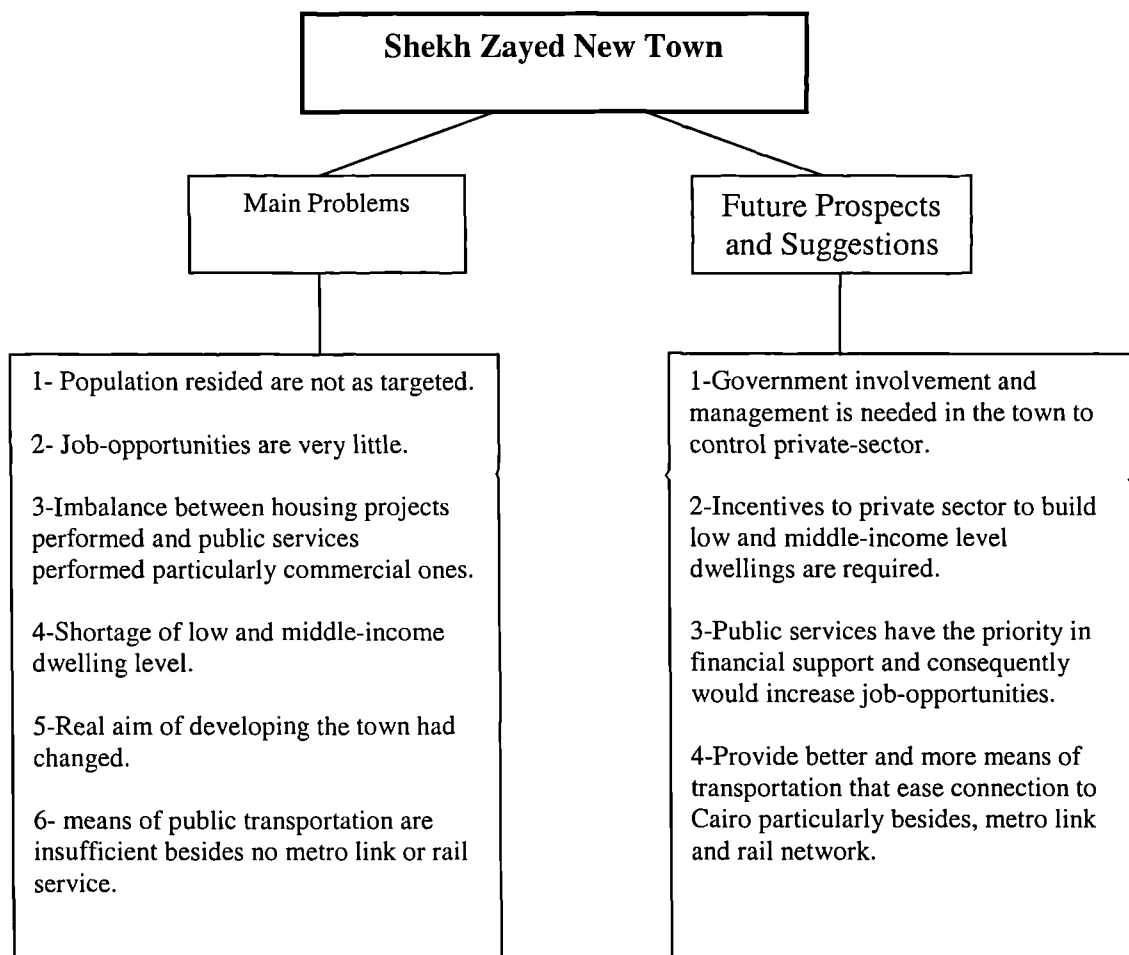


Figure 9.26: Main Problems and Future Prospects in Shekh Zayed Town.

Source: By Researcher.

The sample error for the results of Shekh Zayed Town survey had ranged between +12% and -12% (at the 95% confidence level) which is between the Tenth of Ramadan

(± 11) and Badr (± 13), so the results of this town are broadly acceptable for the purposes of the research. It was acknowledged that it would be better if the sample errors were less than those values (± 11 / ± 13 / ± 12) in the three towns. The researcher understands that the sample error decreases when the sample size increases, but in this research the sample size was limited by the Ministry as mentioned in chapter 6.

From here the empirical research study ends and research findings start from the following chapter, where all results and observations of the field survey study in Egypt will be integrated, analysed and assessed to find out essential underlying reasons for the problems that the new towns are facing.

Chapter 10:

Field Survey Analysis and Observations

10.0 Introduction

After reviewing the research field survey in the previous four chapters, this chapter will present a summary of the main findings of the field survey, regarding the extent to which the new towns' programme had achieved its objectives and the impact of the following factors in the process. This is to find out whether a defect in some of these factors was behind the failure of the Egyptian new towns to achieve their targets. These factors are classified under two main headings, the first being the emerging characteristics of the new town itself and their effect on the failure or success of its development, and the second being those elements that shape the implementation process. The importance of this assessment is to lead us ultimately to the purpose of the study in developing principles for the planning policies contributing to planning theory in relation to new towns programmes in developing countries. The analysis will start by summarizing the findings of the three case studies under the main headings that have been studied in chapters seven, eight, and nine explored in table (10.1), then will come to the elements that shape the implementation process of a new town development.

10.1 The Emerging Characteristics of a New Town itself

The overall observation of these characteristics in the three case studies is summarized under eight headings:

- Location of new towns.
- Overall pattern and distribution of land uses.
- Type and mix of housing.
- Economic base and employment structure.
- Provision of public services.
- Transport services and facilities.
- Social relations and local environment characteristics.
- Population growth and future intentions for staying in the town.

10.1.1 Location of New Towns

In the three case studies, the distance between the new town and Greater Cairo ranges between 38-55km, which is an acceptable distance that is not too far and, at the same time, not too near, in a way that would be absorbed physically within the administrative boundaries of the mother city. The three towns are connected to an important regional network: the Cairo/Ismailia Road, Cairo/Alexandria Road, and Cairo/Suez Road, with an easy access to Greater Cairo Ring Road.

But looking at the map of topography of Egypt (figure 10.1), it can be seen that Badr town, as well as some other new towns, such as New Cairo and El-Shorouk, are located on a fault-line that is dangerous at time of earthquakes. It has been suggested that this problem is one of the main reasons for some people's reluctance to move to the town. (Focus Group, 2002). In addition, there is the traditional tie of the Egyptians to the Nile Valley and Delta, as stated,

“Being not far to the Nile means very important thing to Egyptians, it would take sometime to change people's attitudes towards moving from the Nile to the desert where most of the Egyptian New Towns are located”.

(Hanan Akel, Manager of Planning and Research Studies in Ministry of H.U.NUC)

Further, it can be seen from the land-use map of Egypt (figure 10.2) that the Tenth of Ramadan Town (first case study) has been built within an area classified as fertile agricultural lands. This is also true of Salihya and few others. Such locations do not comply with the Government's '1970 Master Plan for Greater Cairo' that forbids

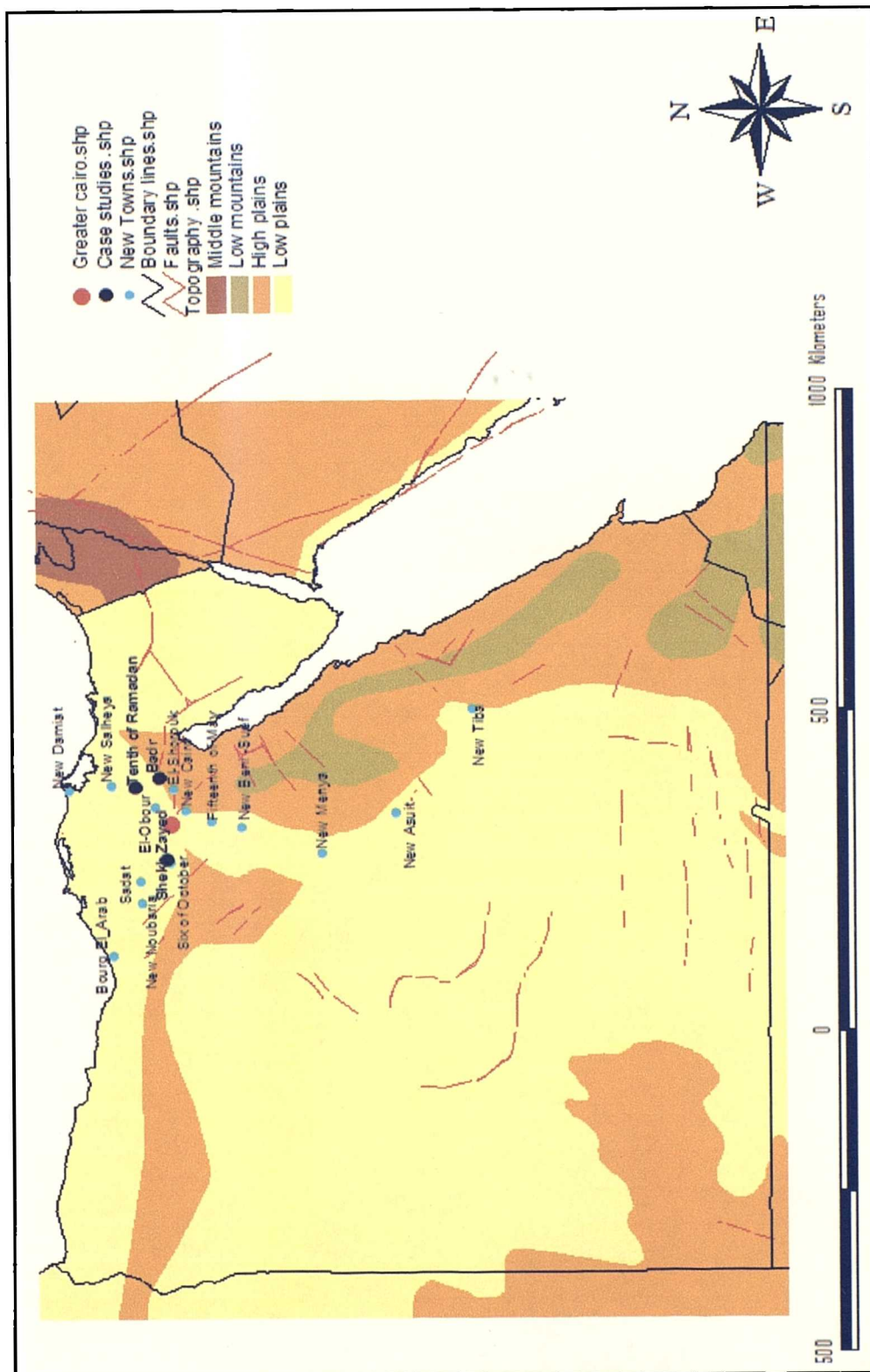


Figure 10.1: Topography and Faults in Egypt.
Source: By Researcher based on ESRI data and GIS Techniques Applications.

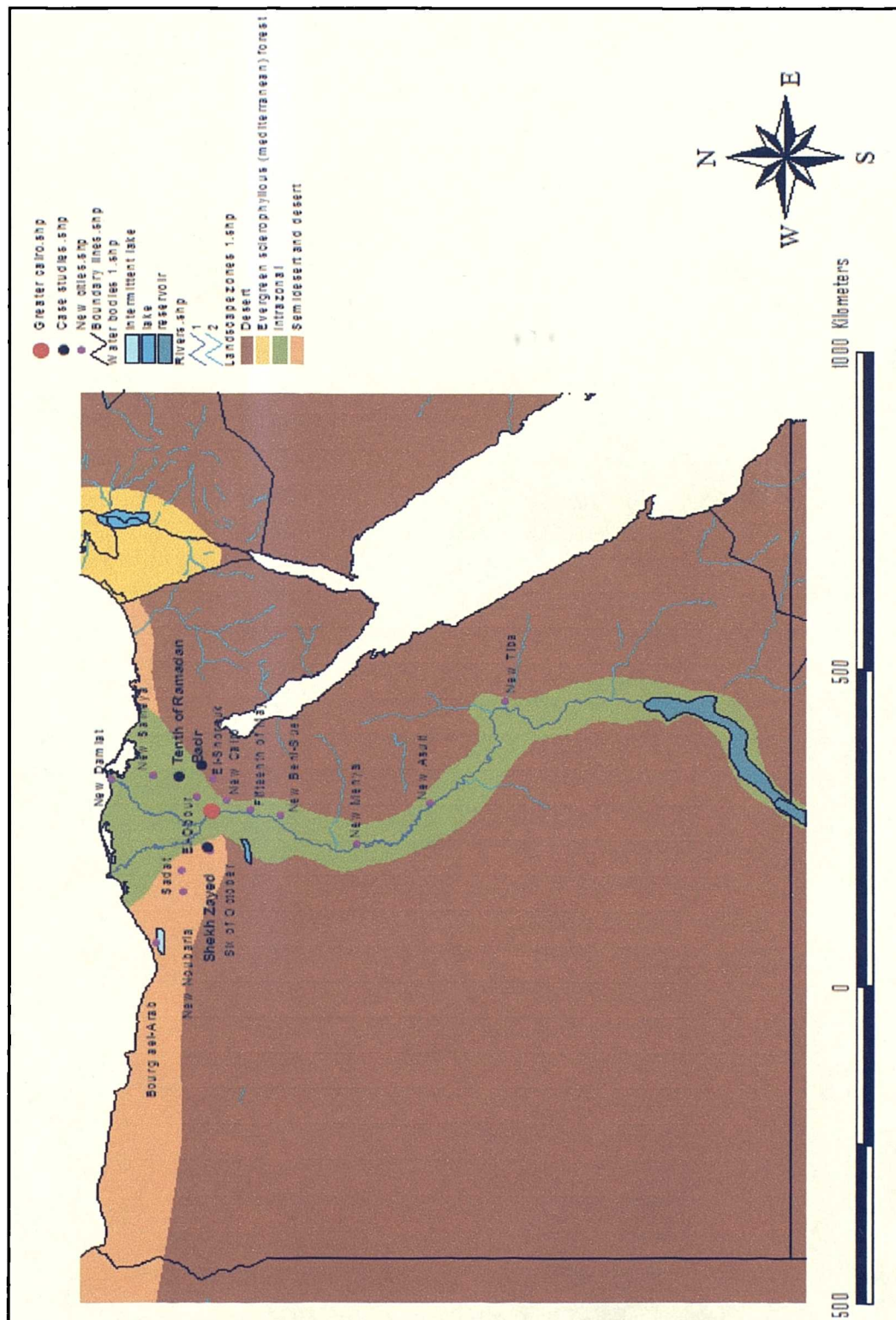


Figure 10.2: Land-Use in Egypt.

Source: By Researcher based on ESRI Information and GIS Techniques Applications.

building and developing on fertile agricultural lands in the Nile Valley and Delta (chapter 5). Badr Town (second case study) is also located on the edge of this fertile area but Shekh Zayed Town (third case study) is located in the semi desert area.

In this thesis the GIS has also been used to demonstrate alternative location patterns for new towns developments. The first example is illustrated in figure (10.3) as a practical application of the GIS programme in presenting alternative locations for New Towns, to be located according to the following suggested standards, as an example only, showing how GIS could be used in urban planning:

- 1 Distance from railways and main roads is $< 10\text{km}$
- 2 Distance from faults is $> 30\text{km}$
- 3 Distance from capital and major cities is $< 55\text{km}$
- 4 Areas where to build are not of very high or high green fertile lands.

The blue areas created in example 1 and example 2 are places that comply with the conditions suggested and are suitable locations for new towns developments. The purple points represent the 17 new towns already built. It can be seen that most of them are located on fertile agricultural land or near to faults and do not comply with the suggested criteria.

The second example considers locating new towns near energy resources (medium and light minerals) where industry could be encouraged, and that would help create self-contained new towns, which would not be dependent upon major cities (the mother cities) for work; and would therefore reduce congestion and pressure on services in those areas.

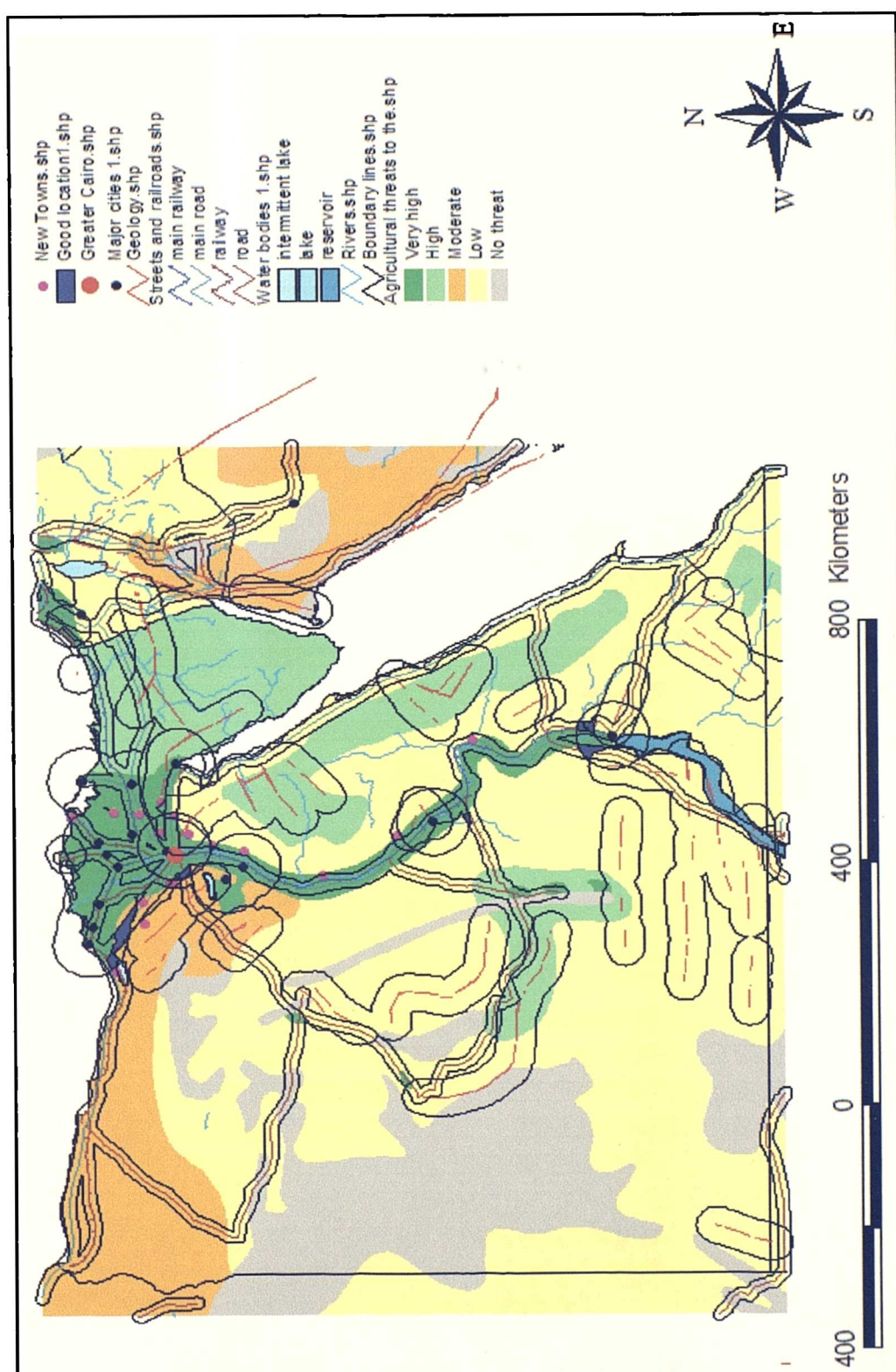


Figure 10.3: Suitable Locations for New Towns in Egypt (example 1).
Source: By Researcher depending on GIS Techniques Applications.

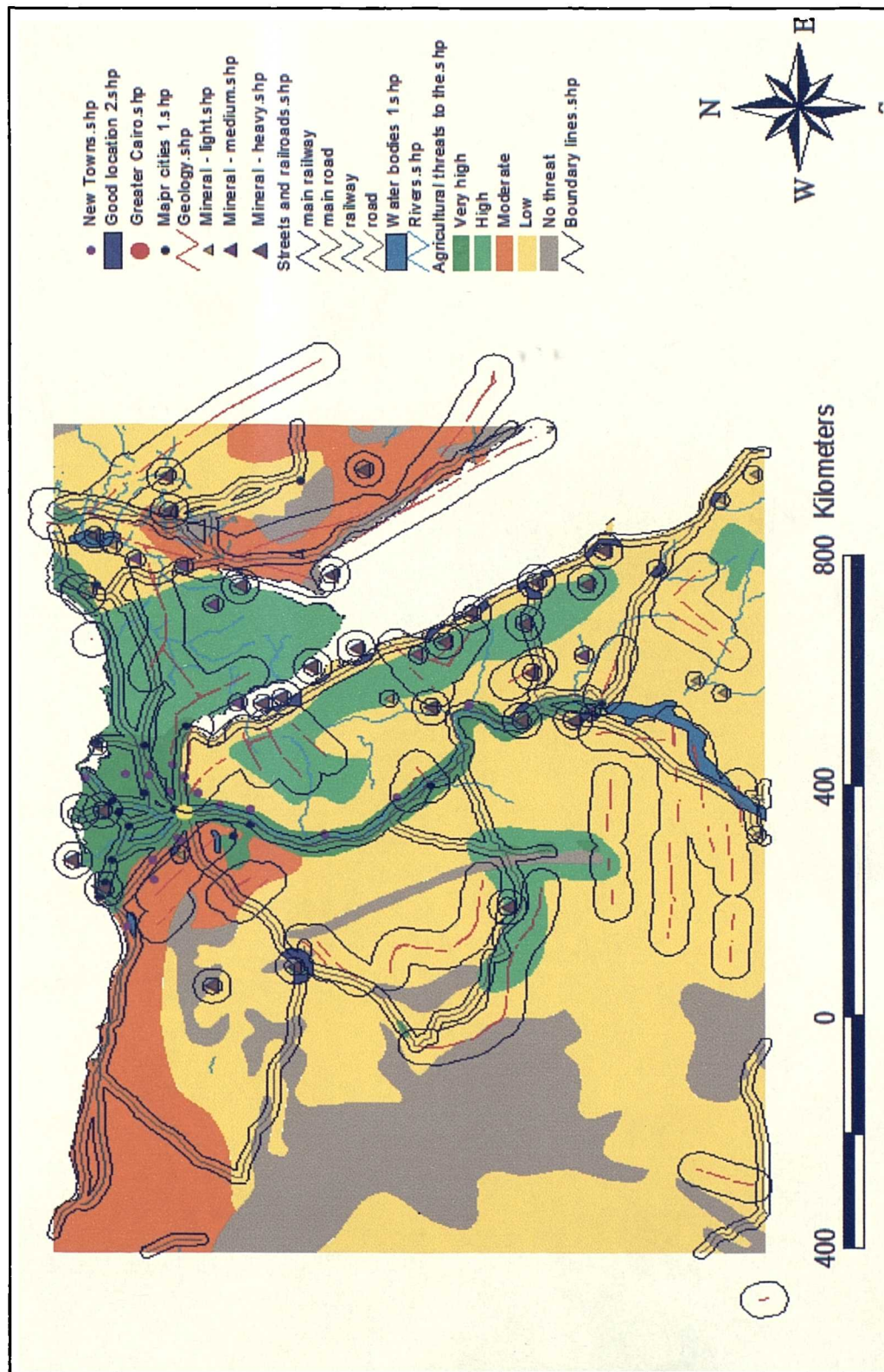


Figure 10.4: Suitable Locations for New Towns in Egypt (example 2).
Source: By Researcher depending on GIS Techniques Applications.

Thus figure (10.4) is created by GIS according to the following factors:

1. Distance from railways and main roads is $< 10\text{km}$
2. Distance from faults is $> 30\text{km}$
3. Distance from medium and light energy resources is $< 15\text{ km}$
4. Distance from heavy energy resources is $15 < d < 30\text{ km}$
5. Areas where to build are not of very high or high green fertile lands.

Again here it can be seen that the location of existing new towns does not comply with the criteria above and are far away from energy resources. Thus, recent technology applications can assist and contribute to a high extent in the planning process of the new towns programme.

10.1.2 Overall Pattern and Distribution of Land Uses

The three case studies are of different sizes within the built-up area ranging from 94 to 51 to 39 km^2 , the Tenth of Ramadan town is the biggest in size and Shekh Zayed town is the smallest. Green belt area surrounding each of the three towns is also different in size, as in the Tenth of Ramadan it is 304 km^2 and in Badr town it is 22 km^2 , whereas, in Shekh Zayed town it is only 1 km^2 . This is due to the size of the industrial area planned in each town, that forms 45% of the total built up area in the Tenth of Ramadan town, and forms 18% of the total built up area in Badr town, whereas, in Shekh Zayed town there is no industrial land-use, therefore the green area surrounding Shekh Zayed town is so small comparatively. But however, the smallest town in size has developed most rapidly. In Shekh Zayed about 30% of the total built-up area was developed in only five years (Ch9, sec. 9.3), whereas the Tenth of Ramadan town and Badr town had reached their span time for each of them and still 56% of the built-up areas in the Tenth (Ch7, sec. 7.3) and only 27% in Badr were achieved (Ch8, sec. 8.3).

In spite of that an important factor affecting the progress in construction works in Shekh Zayed town may have been the private sector involvement in the development process of the town, and the modest in the town's size may also have been an important reason. Nevertheless, the way of designing a master plan may also facilitate the development process for a town when it is of a big area size; as in the Tenth of Ramadan town. One good thing that drew my attention in its master plan is the design of the plan itself, which is divided into 4 stages, and each stage is planned to include everything needed to manage as a separate town. Therefore the delay in the town development process of stages 3 and 4 did not affect the whole town. The two built-up stages, 1 and 2, of the plan are occupied and residents interviewed were somehow satisfied with the services provided, as explored in chapter 7. So, this way of designing gives the opportunity of a gradual reasonable growth for a new town to take its time.

Another good thing in the design of the Tenth of Ramadan town is the devoted lands for industrial uses. Building an economic-base in the town itself from the beginning, rather than providing housing and public services only, attracts more people. Industry in the Tenth of Ramadan town played an effective role in convincing people to move to it. This led the government to consider updating Badr town master plan by adding more land for industrial use and health services in order to stimulate growth.

“A study was done by consultants in the NUCA on Badr town and had noticed that the industrial projects in the Tenth which is not far away from Badr had activated the whole town. Therefore we were asked as planners in the ministry to do some modifications to Badr town master plan in order to make it active like the Tenth”.

(Eng. Khaled Husen, planning engineer in urban planning)

Also in Shekh Zayed town the areas devoted to entertainment land-use would play an important role in the economic life of the town.

Table 10.1: Summary of Field Survey Findings in the Three Case Studies

Properties of Town	Tenth of Ramadan (1978)	Badr (1982)	Shekh Zayed (1996)
Distance from 'mother city' Km	<ul style="list-style-type: none"> 55 km to the east of Cairo. 	<ul style="list-style-type: none"> 47 km to the east of Cairo. 	<ul style="list-style-type: none"> 38 km to the west of Cairo.
Size of Town	<ul style="list-style-type: none"> 94 km² built-up area + 304 km² green area =(398 km²). 	<ul style="list-style-type: none"> 51 km² built-up area + 22 km² green area = (73 km²). 	<ul style="list-style-type: none"> 39 km² built-up area + 1 km² green area =(40 km²).
Size of Population	<ul style="list-style-type: none"> 187,000 that is 37.4% of what was planned 500,000 resident^a. 	<ul style="list-style-type: none"> 1,358 that is 0.3% of what was planned 430,000 resident^a. 	<ul style="list-style-type: none"> 5,000 that is 1.1% of what was planned 450,000 resident^a.
Moving to Town	<ul style="list-style-type: none"> Most of respondents had transferred to town since between 2-7 years^b. Main reasons for transferring to town were environment and job reasons^b. 93% of respondents consider this town as better than the previous one they lived in and only 7% consider previous is better mainly because it is very far from Cairo^b. 	<ul style="list-style-type: none"> Most of respondents had transferred to town from between 0-3 years^b. Main reasons for transferring to town were dwelling and environment reasons^b. 35% of respondents consider this town as better than the previous one they lived in whereas, 65% consider previous is better mainly because of shortage in services and job opportunities^b. 	<ul style="list-style-type: none"> Most of respondents had transferred to town from between 0-2 years^b. Main reasons for transferring to town were environment and dwelling reasons^b. 81% of residents interviewed consider this town as better than the previous one they lived in and 19% consider previous is better, mainly because of shortage in public services and job opportunities^b.
Fund	<ul style="list-style-type: none"> Partnership between public sector and private sector but the main role is to public sector (Government)^a. 	<ul style="list-style-type: none"> Public sector^a. 	<ul style="list-style-type: none"> Partnership between public sector and private sector but the main role is to private sector^a.
Housing	<ul style="list-style-type: none"> 56% of targeted dwelling units targeted had been completed^a. 8% of dwellings are in poor physical condition, whereas, 33% are good and the rest are in average condition^b. Some of dwellings built are empty and most of them are of upper-middle income group^a. Most of respondents are happy with their dwellings^b. Design of buildings from outside is good^b. 71% of respondents find rent or mortgage installment of dwellings reasonable^b. Some workers in industry are not finding dwellings to live in them in the town^a. 	<ul style="list-style-type: none"> 38% only of targeted dwelling units targeted had been completed^a. 28% of dwellings are in poor physical condition, 5% only are in good condition and the rest are in average^b. Nearly most of dwellings built are unoccupied^a. Most of respondents are unhappy with their dwellings because of the insufficient number of rooms and bad physical condition from inside^b. Design of buildings from outside is so bad^b. 49% of respondents find rent or mortgage instalment of their dwellings reasonable^b. 	<ul style="list-style-type: none"> 60% of targeted dwelling units targeted had been completed^a. 10% only of dwellings are in poor physical condition, 38% are in good one, and the rest are in average condition^b. Nearly most of dwellings built are unoccupied mainly those of upper and high-income group level^a. Most of respondents are happy with their dwellings^b. Design of buildings from outside is so good^b. 48% find the rent or mortgage installment of dwellings reasonable^b.
Economic- Base & Job- Opportunities	<ul style="list-style-type: none"> Economic base is industry & services^a. Most of respondents work in professional/management jobs and industry^b. The majority 86% works in the town itself^b. 	<ul style="list-style-type: none"> Economic base is industry, health compounds, and services^a. Most of residents work in professional/management jobs^b. 16% only of residents work in the town itself^b. 	<ul style="list-style-type: none"> No main economic base except services, and a regional entertainment project^a. Most of residents are self-employed^b. 14% only of residents work in the town itself^b.
Commercial and Public Services	<ul style="list-style-type: none"> 33% of targeted Commercial services and 75% of Public Services are implemented^a. Nearly all residents interviewed 96% are satisfied with neighbourhood shopping centre and 67% with main town centre^b. Respondents are satisfied with hospital 94% and nearly 80% with clinics, 93% with pharmacies and 57% with emergency units^b. 93% are satisfied with kindergartens, 82% with primary schools and 71% with elementary & secondary, whereas, no one is satisfied with high education institutions as University that planned in the master plan is not built yet^b. 65% are satisfied with culture centres, 80% with entertainment centres, 94.5% with parks and 90% with sport clubs^b. 	<ul style="list-style-type: none"> 25% of Commercial services and 16% of Public services targeted are completed^a. Nearly 10% only of residents interviewed are satisfied with main town centre but their attitudes are better in regard to neighbourhood centre as 40% are satisfied with it^b. The majority of respondents are not satisfied with hospitals, emergency units and clinics but 50% are satisfied with pharmacies^b. About 50% of respondents are satisfied with kindergartens and 25% with primary schools, whereas elementary & secondary schools^b. Most of respondents are not satisfied with culture centres as well as entertainment centres and sport clubs and nearly 30% are satisfied with parks^b. 	<ul style="list-style-type: none"> 8% only of both Commercial & Public services targeted are completed^a. Nearly 50% of respondents are satisfied with main town centre, and 40% with neighbourhood shopping centre^b. Nearly all residents interviewed are not satisfied with hospital and emergency units and only 8% are satisfied with clinics. Whereas, pharmacies are better as 43% are satisfied with them^b. Most of respondents are satisfied with kindergartens and primary schools, whereas the majority of them has no children in Elementary & Secondary levels^b. All interviewees are dissatisfied with culture centres, and very few 8% are satisfied with entertainment and sport clubs whereas, 41% with parks and green areas^b.
Transport Services and Facilities	<ul style="list-style-type: none"> Nearly 50% of respondents own a car and most of them 40% go to work by car and also 40% use bus, the rest use other means^b. Some are dissatisfied with internal buses & micro-buses but most of residents interviewed are satisfied with pedestrian facilities and are happy with highways and roads in the town^b. Nearly half of respondents are satisfied with external buses commuting to Cairo or other cities around, but no one is satisfied with metro or train^b. 	<ul style="list-style-type: none"> Nearly 40% of respondents own a car and go to work by it and very few uses the bus mainly because it is not available^b. Respondents are very dissatisfied by internal buses & micro buses but the majority 80% are satisfied with pedestrian facilities and 75.5% with highways and roads in the town^b. Respondents are very dissatisfied by external buses commuting to Cairo or other cities around as well as metro and train^b. 	<ul style="list-style-type: none"> Nearly 60% of residents own a car and most of them go to work by it^b. Very few are satisfied with buses & micro-buses and 33% are satisfied by pedestrian facilities whereas, 83% by highways system and roads inside the town. Very few 9% are satisfied with external buses and no one is satisfied with metro or trains^b.
Social Relations and Local Environment Characteristics	<ul style="list-style-type: none"> The majority of respondents are from middle-income group level^b. Most relations in the town are between neighbours and friends at work (labours)^b. Generally residents interviewed are happy with their local environment in their neighbourhood unit^b. 	<ul style="list-style-type: none"> The majority of residents are from middle and low-income group level^b. Social relations are few in the town and are mainly between neighbours^b. Attitudes of respondents towards their neighbourhood unit are negative particularly towards services, green areas and safety^b. 	<ul style="list-style-type: none"> The majority of respondents are from upper-middle and high-income level^b. Most relations created in the town are between groups of similar social class level^b. Generally residents interviewed are happy with their local environment in their neighbourhood unit^b.
Intention of Staying in the Town	<ul style="list-style-type: none"> 92% of respondents are willing to stay and feeling happy in their town^b. Only 8% are planning to move because of dwelling reasons (not enough number of rooms) and missing social life^b. 	<ul style="list-style-type: none"> 32% are willing to stay because of the environment in the town despite their mostly dissatisfaction with all components and services provided^b. 68% are planning to move mainly because of no jobs and bad quality of dwelling^b. 	<ul style="list-style-type: none"> 86% are intending to stay in the town inspite of shortage in public services^b. Only 14% are planning to move mainly because of job reasons^b.

Source: By Researcher based on Field Survey Questionnaire and Ministry of H.U.NUC Information.

a: Documentary Information.

b: Questionnaire Survey Information.

10.1.3 Type and Mix of Housing

It was found from the investigation that the housing sector had the highest rate of performance in each of the three towns (table 10.1). In the Tenth of Ramadan town nearly 56% of what was planned for housing sector in the master plan has been developed. In Badr town 38% of housing land has been developed, and in Shekh Zayed town nearly 60%. This indicates that most of investment, in each of the three towns, whether from public or private bodies, has been on housing. But, as each town had to include different dwellings levels, in reality there has been little similarity in their performance. This may be related to an extent to the bodies financing these projects. As explained in the previous chapters, there are three main resources for financing the housing sector: the government (public sector) represented by the NUCA, the consortiums (public private partnership), and the private agencies, whose main aim in housing development is investment for profits. Consequently low-income groups were the most affected group by this imbalance and this is obvious in the Tenth of Ramadan and Shekh Zayed towns. In spite of the good progress in the housing sector development in middle and high social class levels in these two towns, it was found that less has been achieved for the low-income group level who are the most in need and demand of accommodation in Egypt and who are the main group who suffer the problems of informal settlements, overcrowding, and congestion in Cairo and other major cities.

However, these new towns were not strong enough, even in attracting other groups. There are still many empty dwellings for middle and upper-middle income groups available in the Tenth of Ramadan and Sh.Zayed towns. Despite the housing shortage in the Cairo region, low-income groups are not able to move into this accommodation

for two main reasons: the first is their inability to pay for the dwellings available in the town as their prices are somehow high. The second reason is the lack of sufficient public services and public transport facilities that are more needed by lower income groups. It was noticed in Badr town, for example, that whilst plenty of low-income group level dwellings were empty and available but the town was lacking such services.

“Dwellings in this town are really cheap and available in comparison to other towns or cities particularly Cairo but it is not easy to live in Badr without a car as you need to travel everyday to your work and also to get your needs. Some of our neighbours had moved to the Tenth of Ramadan but we couldn’t because prices there are more expensive than here”.

(Focus Group in Badr town, 2002)

In the Tenth of Ramadan town, the investigation showed that most of dwellings are in good and average condition from outside and inside. In addition, most of them are occupied. This indicates that residents are satisfied with their dwellings. Further, most of respondents living in the town are to an extent happy with the amount of rent or mortgage they are paying for their dwellings (figure 7.15). This isn’t the same in Badr town where nearly a third of the dwellings built are in poor condition (figure 8.9) and need maintenance. This is especially true of those built in the early places of development and left unoccupied with windows and doors left open without any supervision or maintenance; in some cases water taps had been left on, causing corrosion and disfiguring the outside walls (as shown before in pictures of chapter 8). It was noticed in some buildings that there was even animals driven into the ground floor by their shepherds.

The investigation showed that Badr town, residents were unhappy with their dwellings, especially from the inside. They are disappointed with the interior finishing of their dwellings (figure 8.9). Some were obliged to virtually reconstruct their flats from inside

again, especially sanitary related works (Focus Group, 2002). This added to the cost of their dwellings. The only thing they are happy with in the housing sector of Badr town is the level of rents or mortgages, which most of them find them reasonable (figure 8.15).

It is different in Shekh Zayed town, where there has been a good progress in housing projects developments. This may be because many of the dwellings have been built by the private sector and are in good condition, both externally and internally (this is shown in chapter 9 pictures). In addition luxury units in the town have private security to look after them. In spite of this, the population of Shekh Zayed town is still very low, although better than Badr town as most of those dwellings in Sh.Zayed are completed and owned by people, yet many of them are unoccupied during most of the time. The reason is that owners come to the town occasionally, on weekends and holidays. Thus the town, instead of serving its original aim, it has turned into a resort. A further reason is that some owners of the dwellings in this town bought dwelling units not to live in but to keep for investment reasons (Eng. Al Jawahiri in the town council, 2002). It is also true that some dwellings are empty in Shekh Zayed town because they do not match the demand in the housing market. The prices of these dwellings are beyond the ability of the low-income groups that are suffering most from housing shortage in Egypt (Focus Group, 2002). Hence, current housing performance and financing policy did not attract the targeted social group who are most in need of accommodation.

10.1.4 Economic Base and Employment Structure

According to the three case studies of the master plans, the economic base of the Tenth of Ramadan town is mainly industry, similarly Badr town is supported by industry and

health compounds, but Shekh Zayed town depends mainly on the big regional entertainment project, apart from job-opportunity provided through public services in the town. This investigation has shown that the industrial development in Tenth of Ramadan has succeeded as an economic-base and the town has been more successful than the others in attracting investors, as well as population looking for opportunities to work. This is demonstrated in figure (7.18) that showed 86% of respondents in the Tenth of Ramadan work in the town itself, mainly in industrial or professional and management jobs.

In Badr town the case is different. Although the economic-base of the town is also mainly industry, there has been little development and many of Badr's residents, those classified under skilled and unskilled labours, work in Tenth of Ramadan. Figure (8.16) showed that only 16% of Badr respondents worked in the town itself. Tenth of Ramadan is attracting industrial investors more than Badr town, which is near to it. Therefore, the government has a role to play in attracting new industrial investment to Badr, for example, by tax exemption and other facilities that would help in activating industry in the town.

Most of the land zoned for industry in Tenth of Ramadan has been taken up and the town started to suffer from informal industrial developments in places that are planned for other purposes (Eng. Iptisam Hamza in the town council, 2002). In contrast areas of industrial land in Badr are not developed yet, this is in addition to medical health compounds designed in the master plan but still undeveloped. This leads to the conclusion that Badr town needs to be financed through a partnership between public and private sectors. It seemed a good management policy in the Tenth of Ramadan to

finance housing and public services projects and leave industry projects to private sector from the beginning. This is beside tax exemption policy that was applied on industrial investments and proved its validity. Projects such as entertainment, industry, medical resorts, etc are more interesting to private developers and so to work on them for profits.

10.1.5 Provision of Public Services

The pattern of public services in the master plans of the three case studies had been planned in a hierarchical structure, starting at three levels: the neighbourhood centre; the district centre; and the town centre. However, the provision of services is far behind what was planned and does not yet satisfy the needs of the population, except in the case of Tenth of Ramadan. It was found from the field survey that most of respondents of the Tenth of Ramadan are satisfied with neighbourhood shopping facilities, as well as with the town centre, and with health services, especially the hospital (tables 7.2, 7.3). They are also satisfied with schools and education centers (tables 7.4, 7.5). However, the new university planned in the master plan has not yet been built. This is a matter of concern to residents. The development of a university could stimulate the development not only in the Tenth of Ramadan but also in the whole region area to the east of Greater Cairo and may play a role in reducing pressure on central Cairo, as universities were suggested as one of the main reasons behind rural–urban migration to Greater Cairo (Focus Group, 2002). However at this stage, compared with the existing number of population occupying the Tenth of Ramadan, the services available are adequate. Nevertheless, there are many projects for service provision that still remain at the planning stage only and need funds in order to be completed.

The case is different in Badr and Shekh Zayed towns. It was found from the investigation that public services are lacking in both towns, but respondents from Badr were less satisfied than those from Shekh Zayed. This may be because people who moved to Badr went to find a place to live in it permanently; therefore they can strongly feel the lack of services. Nearly all respondents were not satisfied with town shopping centre and complained that there was no hospital. They have to depend totally on the Tenth of Ramadan for medical facilities. Neither were they satisfied with schools, cultural or entertainment centers. In Shekh Zayed, things are a bit different from Badr as most of these services are also lacking, but because most of its occupiers do not live permanently in the town (focus group meeting, 2002), they do not feel this shortage. The exception was in medical services particularly hospital and emergency units, where respondents experienced a lot of dissatisfaction (table 9.3).

There were also some complaints about entertainment services, although these privately funded projects are in the development stage but will be ready very soon. One common complaint found in the three towns was that some government institutions, which are all concentrated in Greater Cairo, have no branches in these new towns. This is another factor that discourages people to move away from central Cairo, as people need to be in frequent contact with these different institutions (focus group, 2002).

Thus, there is some delay in the provision of public services in Shekh Zayed town, compared with housing or industry sectors. In addition, the completion of housing developments in each district was not accompanied with the completion of public services developments, so there is a shortage even in day-to-day needs. It can be suggested that the main reason for this delay is the shortage of funds but it may also be

due to poor management of the implementation process. The Government has left the development of public services until the end after finishing housing sector construction. The problem is that there aren't sufficient services in the town to encourage people to settle down. In Badr and Zayed towns, the lack of services facilities had impeded the inflow of residents, which in turn weakened demand for services, thereby reducing the incentives of entrepreneurs to be involved in producing services facilities. So, people are waiting for services and services are waiting for people, and this continuous circle is probably a major contributor to the inability of those new towns to attract permanent residents.

10.1.6 Transport Services and Facilities

The three case studies were found well related to regional networks leading to major cities, particularly Greater Cairo. Basic accessibilities are already considered in their master plans and also performed. However, the problem is in the lack of means of public transportation (tables 7.7, 8.7, 9.7). Therefore, people who think of moving to such towns have to think of owning a car, which is so expensive in Egypt, as well as in most of developing countries. Owning a car by the low and middle-income groups is so expensive. Therefore, they have no other way apart from using public transportation for commuting and this is what actually any town should provide. In these towns the problem with internal means of transportation that connect parts of the town itself to each other, is not in the adopted means itself but in the way they are operating. Internal buses are of low frequency, and also bus stops are far away from each other. Similar complaints were found regarding the external means of transportation as buses commuting between towns are few and of low frequency. In addition, these buses do

not reach all governorates of Greater Cairo, except Cairo itself. Hence, residents of the new towns have to change buses many times to reach their destinations.

However, the problem in the Tenth of Ramadan is lessening as residents are using the privately owned and operated micro-buses to travel locally in the town or travel to their destinations in Greater Cairo and other cities. These micro-buses stop in one specific square in the town centre which is the main station. Public means operated by the government are found to be so slow and of less frequency, besides there is only one public sector company operating, that is 'the Greater Cairo's bus company'. One of the drivers of these buses was asked about the reason for the low frequency, he said, "There aren't enough passengers to support the operation of separate buses economically and frequently on a fixed time table". It becomes clear here again that buses (i.e. services) are waiting for residents, and residents are waiting for these public means to be provided, it is the same vicious circle.

This is all in addition to the lack of the main transport facility that Egyptians usually depend on, more than any other mean of commuting, namely the metro or train. The government had planned a metro-network project recently connecting new towns to each other and to major cities. The study had been completed but still the government is waiting to choose the highest bidder among the private investors to complete the project and operate it under their supervision and management. Thus, the delay in providing such means had led the residents of these new towns to feel that they are isolated and that it is difficult for them to reach Cairo or any urban center, at least to get their daily needs.

10.1.7 Social Relations and Local Environment Characteristics

In the planning process of new towns it is not only important to consider the physical and economic factors, it is also essential to consider the people who are expected to live in the town and how to create a balance between different economic and social group levels. The research investigation had showed that each of the three case studies was of different social situation. For instance, in the Tenth of Ramadan, looking at the population structure, the majority of them were found coming from medium income group level and relations in the town are good but only between friends at work and neighbours (figure 7.21). Whereas, in Badr town relations were found so few, and if there are some, they would be between neighbours mainly (figure 8.20). Most of Badr's residents are from low-income group level and some are from middle-income group. Upper-middle or high social class levels could rarely be found living in this town, perhaps due to cheap prices and quality of dwelling available in Badr town.

This is opposite to the case of Shekh Zayed town as the majority of residents are from upper-middle and high social class levels. Relations in the town are more between groups of similar social class level (figure 9.22). However, the three case studies shows that there are no relations between different levels in the same town. The reason is that the majority in each town relates to one or two similar social groups only. Therefore, social variety is irrelevant in any of them. As a matter of fact, this is causing an imbalance in the social structure of each town. Attitudes of residents towards their local environment had showed that, generally they are managing, except for some complaints in Badr town (figure 8.21). These complaints are about poor green areas in the neighbourhood unit that had become places for dumping wastes instead of planting

them (pictures in chapter 8). Moreover, the residents occupying the town now, feel unsafe in their town mainly because it is nearly empty.

10.1.8 Number of Population and Intention of Staying in Towns

Usually population growth in a new town is mainly a result of both ‘in-migration flow’ and ‘natural increase’ but here in the three case studies it was more a result of in-migration flow than natural increase. The influence of natural growth in population size is found more in the Tenth of Ramadan, which had the highest number of residents among the three case studies. Some could say that the Tenth of Ramadan is the oldest town so it should have a larger number of residents but actually there are few years between the dates of commencing the Tenth of Ramadan and Badr town. The Tenth started developing in 1978 and Badr in 1982, which is a long time for Badr, more than 20 years, but still it is not able to attract residents like the Tenth of Ramadan at least.

In the field survey, the residents of the three case studies were asked about the main reasons for moving to town, and at the end of the questionnaire they were asked about their intention to stay in the same town or move to another place. Their answers showed that there is a common reason for their movement to these towns (figures 7.23, 8.22, 9.24). It is the healthy environment and fresh air that are rarely found in Greater Cairo. Other reasons were specific to each town, such as looking for job-opportunities in the Tenth of Ramadan or looking for cheap dwellings in Badr or looking for luxury comfortable dwellings in Shekh Zayed town.

However, the interesting point is that in spite of all shortages in different facilities in these towns that were explored before, the majority of respondents in the three case

studies are willing to stay in their towns. Although 68% of Badr residents intend to move (figure 8.23), but in spite of all the complaints and its bad condition, there are still some respondents who are willing to stay. This is actually an indication, which leads us to say that thinking of new towns policy, as a solution for population redistribution in the country, was not a wrong idea, but it needs more attention and better management. Another point that draws the attention is that Badr and Shekh Zayed towns share nearly the same shortage of public services but they are quite different in their achievements regarding the housing sector, and on the other hand, 86% of respondents in Shekh Zayed are still willing to stay in the town whereas only 32% in Badr are intending to stay (figures 8.23, 9.25). This indicates that dwellings are important to residents in terms of quality rather than quantity (comparing pictures of Ch8 and Ch9). Here actually appears the need for good management and the right distribution of funds overall the whole process of implementing a new town. This point will be analyzed later on in this chapter.

10.2 Factors Shaping the Implementation Process of New Towns

There are three main factors:

- Legal powers available to support implementation.
- Organization and management of the implementation process.
- Financial arrangements supporting development.

10.2.1 Legal Powers Available to support Implementation

Although, the three main bodies namely: the public sector, the public-private sector, and the private sector, were involved in the new towns' implementation process, but as shown in chapter 5, the public sector represented by the 'Ministry of Housing, Utilities and New Urban Communities' was the body that prepared the national policy of urbanization in Egypt. It has also the responsibility of implementing it through its agency represented by the NUCA, which is mainly responsible for all the matters necessary for overseeing the development and the implementation process of the new towns. Whereas, the role of the public-private sector, as well as, of the private sector, was only to undertake determined policies of the NUCA, in addition to implementation process. The NUCA has the whole right of supporting the implementation process through money provided by the Ministry to spend on different sectors in new towns.

Moreover, the NUCA were found given the right to accept loans or grants and to involve other bodies supporting the process, such as banks and insurance companies. This had actually supported the housing sector developments, as well as the economic activities, in new towns. It had also supported the consortiums, which in turn had supported housing sector, particularly, and private individuals that had supported the housing as well as the economic activities. It can be pointed out here that many bodies are supporting one sector that is housing, whereas other sectors such as public services are supported by only one body (figure 5.6), and sometimes, they are supported only by the government. There is no co-ordination amongst these different powers due to a weakness in the new town programme administration itself in the NUCA as will be explored in detail in the following.

10.2.2 Organization and Management of the Implementation Process

As mentioned earlier, the NUCA had an overall control over the new towns development programme, but in reality it was unable to control the process well. There were no fixed periods that commit developers to finish their work on time, and this had resulted in delays in the implementation of many projects. There were no organized programmes for the private as well as for the public sectors to achieve their goals on time. Consequently, this had resulted in an inconsistency in towns growth as appeared, for instance, in the housing sector where the three case studies included four different levels of dwellings determined in the master plan, but in reality one or two levels were built mostly in each town and other levels were somehow neglected. Besides, there was no balance in developing and financing different sectors in these towns i.e. between housing and public services. Furthermore, there was no inspection or criterion for measuring achievements until recently (interview with planning officer in Badr Town Council).

This indicates that the NUCA needs more qualified staff for managing such huge projects. In addition to the routine in government institutions policy, the NUCA could not offer many facilities to investors, although it had been given the right to do so. However, this policy was new and need more time, as well as more experience, to apply it. Some of the NUCA employees had negative attitudes, putting obstacles to investors or new residents, whereas, others tried to be positive but had considered some decisions without prior experience in managing new towns developments (focus group meeting in Tenth of Ramadan and Badr Towns), hence things went in the wrong direction.

The example of the Tenth of Ramadan town was to an extent successful probably because at that time SWECO Company shared in the whole development process. It shared in planning designs and supervision of the implementation process and, previously, had an annual report regarding the progress of the town. Whereas, Badr and Sh.Zayed towns were designed and managed by the Egyptian government and local agencies only, without any support from foreign experts or external bodies. This does not mean that the government should carry on depending on foreign institutions in the planning of its national urban development projects, but at least keep in touch and learn from their vast experience in such big projects until employees and planners in different planning institutions are well trained and had acquired good experience and knowledge required in the process.

10.2.3 Financial Arrangements Supporting Development

It is found that the Egyptian Government had been providing financial support to new towns developments in the early stages of applying the policy, rather than recently. Now the Government is unable to complete funding these towns. This could be attributed to the fact that in the beginning of the new towns programme's development process, the government took the responsibility of financing the infrastructure, housing, public services and depended on the contribution of private investments only in economic activities, such as industry, in the example of the Tenth of Ramadan. At that time there were only few determined new towns to be developed, therefore, funds for such different projects were within the range of the government budget. However, later and after suggesting and planning more and more towns to be built, even before finishing developing earlier planned ones, it became a heavy burden on the public sector alone to complete all these projects at once. Therefore, a large amount of funding

was wasted due to the government policy that provided housing and services of reduced quality in order to cut costs as in Badr town example.

Then, the government thought of maximizing the involvement of the private sector, in addition to grants that were awarded from different bodies. Construction works in Sh.Zayed town did not start until the government was awarded the Prince Shekh Zayed's grant, and therefore it was named after him. The government had started encouraging private sector investors more than before by offering them financial incentives to purchase parcels of lands to develop, thinking that the private investors will help in developing different sectors and also different types in housing sector itself in the town. As a matter of fact, the private sector had always selected projects of high profits, only those such as industrial factories or luxury housing. Thus, towns grew in an imbalance way with gaps in their structure.

Therefore, it would be better if the government does not give equal incentives for building different sectors in the town, because this gives private investors the opportunity to choose the same sectors leaving public services without development. Moreover, there was no appropriate control from government on the distribution of construction works in these towns, and now after starting building 17 new towns, not even one of them was completed. The government had announced shortage of fund and its inability to complete developments in these towns, and there was a big rumor that the government is thinking of selling these towns to private co-operations, local or foreign ones, to complete their construction works (Al-Moragi, 2000).

10.3 Conclusion

The 1978-82 five years national plan had called for the absorption of 8 million persons by the year 2000 in these new towns (Ch5, sec. 5.2.5), but it was found that actually in 1994 less than 0.5 million people resided in them (Yousry and Aboul Atta, 1997, p.138), and up until 2002 they did not even reach 1 million residents in total of the 17 towns (Abo-Aeana, 2002). This is evident in the existing number of population found in the three case studies investigated in this research. Also the five-years plan called for allocating 5% yearly of all distributed national investments for the new towns developments (Ch5, sec. 5.2.5), but in reality only 1.7%, as an average, were allocated annually (Osman, 2002). This is in addition to the government's recent announcement of its inability to complete financing existing towns that are now already under construction.

Furthermore, the five-years master plan had suggested encouraging the involvement of the private sector in the process and this is what happened in fact. However, this policy in the way it was applied did not achieve the desired results as was found in the example of Shekh Zayed town. The five-years master plan had even called for improving the transport network, especially the metro line that was supposed to connect new towns located on the eastern developing axis, as well as those located on western developing axis to the existing operating metro line in Greater Cairo. Yet this did not happen and the project is still under auction between the private investors.

Therefore, this leads us to think that probably the new towns program was a short-term political gain for the political members in the Government who intended to demonstrate great achievements in their period of working at Government institutions. Thereby, the

problem was due to the fact that the Egyptian government was over ambitious with regard to the number of the new towns suggested to be built until now, and also size of population projected to be accommodated in them; or probably the problem is in the NUCA administration itself and the lack of expert managers to direct the whole new towns programme by full realization of the government's available budget. As a matter of fact, it is both together. Suggesting the development of 17 new towns without having the ability to finance them indicates that it was in fact a political decision of the members in government. What makes the problem worse is that there are another 14 new towns still in planning stages and 28 are under study now. It would have been a more efficient use of resources to support and fund a few number of towns completely rather than spending money on constructing 17 new towns together with no planned policy for the future.

This however does not hide the slackness in NUCA administration and management of the process and their unplanned distribution of funds and powers supporting the process. Many problems were found in the three case studies relating to the shortage of public services, means of public transportation, opportunities of work, etc. These problems had affected the characteristics of the new towns and as a result these towns became nearly empty towns unable to attract people to live in them. Although, it is also the fact that a vital factor affecting the attractiveness of those new towns is related to the concentration of public and private resources and other advantages available in large agglomerations like Greater Cairo which are difficult to recreate in new towns (ch5, sec. 5.2.3), but in spite of that, advantages associated with the agglomeration economies maybe outweighed by the disadvantages associated with congestion once the city size exceeds a certain limit. As stated,

“There is the ‘pull’ factors associated with agglomeration economies but also there is the ‘push’ factors associated with the congestion of urban areas”.

(Mano and Otsuka, 2000, p.191)

Thus, attractive factors, which are found in major cities, are accompanied with largely uncontrolled spatial expansion, severe infrastructure deficits, and insufficient housing provisions. Therefore, people would need to transfer to other small urban centres such as new towns but sufficient level of services have to exist in these towns to become able to pull people out of the big urban agglomerations. The government role is very important in this issue through determining an effective managing policy for planning and implementing new towns projects.

Partnership between government and private sector was found effective in the development of new towns projects (as in Tenth of Ramadan town) but the government is required to set the framework for this partnership and keep the main control of the development process in its hand. In addition, it was noticed that some components of the new towns were found of more priority in the implementation process than others. Industry, public services as well as infrastructure developments are better to be constructed before the housing developments, as they provide opportunities of work, which is a very important matter to keep in mind. Where there is urban growth, the motive force is always for employment or the possibility of employment. People come looking for work, they may not find it, but that is why they migrate.

In addition, other problems were found in the planning and design process of these towns related to the location of the towns, especially if there was a problem with the location, such as in Badr towns, which was found located on faults, and people were aware of that. This could affect their intention to move to such town. Moreover,

locating a new settlement near energy resources was found more beneficial than locating them near to major cities, as energy resources may create opportunities for investment and consequently opportunities of work. This takes us back to the employment element and its great effect on people's intention of changing their place of residence.

However, as these existing 17 new towns had already started their developing stages, the only way to complete them is to complete one after another, instead of all together, and not to start any new ones, even those on the already prepared plans. Basically, it is suggested that the government completes as much infrastructure works as possible in these towns, offering at the same time more financial incentives to private sector (companies and individuals), encouraging particularly the development of public services and economic activities. This is however under the government conditions and its determined programme of distributing different construction works among different sectors. Although it seems here that there will be a great dependence on private sector in the development process but at least still it is under government directory and control.

Basically, this chapter has explored the analysis of the research field study, particularly the three case studies in Egypt. However, the following chapter will gather results and analysis of all previous chapters in order to present the main findings of the whole research study.

Chapter 11:

General Conclusion and Research Findings

11.0 Introduction

The previous chapter included the field survey results and as this research began with literature review of some developed countries, as well as, other developing countries' experiences in building new towns, it is beneficial to make a comparison between the conclusions obtained from the case studies in the Egyptian new towns' experience and the conclusions from the developed and developing countries which were studied in earlier chapters of this research. This is aimed at learning lessons from the western and eastern countries, which in turn would contribute to the planning theory of the new towns programme. Afterward, this comparison will draw the general conclusion and main findings of the research. The following section deals with the two western experiences of Britain and France.

11.1 Lessons from Western Developed Countries Experiences

The new towns programme in Egypt was developed in 1975. That was a decade after France's 1965 and three decades after Britain's 1946, with a different size of population targeted. As a matter of fact, both Paris and London were suitable models to be compared with Cairo (table 11.1) since the two metropolitan cities are similar to Greater Cairo in the concentration of quite a high percentage of the entire population of the country in the capital city*. In Britain, 15% of the population were concentrated in London, In France 15% were in Paris, and in Egypt 25% were in Cairo (GeoHive, 2002). This is basically due to the fact that these capitals represent the economical,

* In Britain, the number of population in urban areas during 1950s was 50,127,000 of which 8,196,807 lived in London; in France, the number of population during the 1960s reached 45,670,000 of which 7,369,387 lived in Paris; and in Egypt, population reached 33,574,026 in 1970s of which 9,658,000 lived in Greater Cairo.

Table 11.1 Comparison between British, French, and Egyptian New Towns

New Towns Characteristics	Great Britain	France	Egypt
Date of Designation	1940s-1970s	1960s-1970s	1970s-1990s
Aims	1-Mainly to reduce congestion in major cities particularly London. 2-To absorb metropolitan expansion and pressure of population growth. 3-To encourage industrial developments in depressed areas.	1-Mainly to reduce congestion in major cities particularly Paris. 2-To absorb metropolitan expansion and pressure of population growth. 3-To encourage industrial developments in depressed areas.	1-Mainly to reduce congestion in major cities particularly Cairo. 2-To absorb metropolitan expansion and pressure of population growth. 3-To encourage industrial developments in depressed areas.
Location	In the orbit of their 'mothers' major cities with distance ranging between 20-50 km in Mark I and II, expanding to about 90km in Mark III. Sites are chosen mostly near small existing villages where a human life nuclear already exists. Towns were built in green field areas but infertile and distances separating new towns from mother cities are green belts and agricultural areas.	All of them in the orbit of their 'mothers' major cities with distance ranging between 15-35 km. Sites of the five towns around Paris were chosen on virgin lands but were supported by powerful transportation infrastructure. Towns were built in green field areas but infertile and distances separating new towns from mother cities are green belts and agricultural areas.	No specific distance range for specific generation but each generation included towns very near to their mother cities 4.5 km, others were far about 55-100 km but the majorities were between 15-40 km from mother city. Sites are chosen mostly on virgin lands with poor transportation infrastructure. Most of the towns are built in the semi-desert but some on fertile lands and distances separating new towns from mother cities are desolated areas.
Size of Population	Mark I towns were up to about 30,000 resident. Mark II towns were up to about 90,000 resident. Mark III towns were up to about 200,000 resident.	Generally Towns were constructed for an average between 250,000 to 300,000 resident.	No specific size range of population for each generation but different sizes in each one, some were of small size such as New Tiba 35,000 resident and others were of big size such as New Cairo 1,500,000 resident. But the majority is ranging between 250,000-500,000 resident.
Size of Town in Relation to 'mother city'	Small in comparison to urban agglomeration of 'mother city' (figure 11.1).	Medium in comparison to urban agglomeration of 'mother city' (figure 11.1).	Big in comparison to urban agglomeration of 'mother city' (figure 11.1).
Developing & Funding	Partnership between public and private sector, more obvious in the third generation. After the site is determined by the Secretary of State for the Environment in England, Scotland and Wales new towns' works proceeds to: 1-DCAs (to prepare mater plans that have to be approved by the ministry and then the Development corporations become the main planning authority for the new town). 2-LAs (local authority to provide gas, electricity, water, communication networks). 3-Private enterprises and foreign investors (shopping centres, industrial developments). Mark I and II funds came via national loans for the whole development projects but later in Mark III private sector had took the responsibility of half of the capital for commercial and industrial developments.	Mainly public sector, Government had divided works among different associations to develop it but under its control. These associations are: 1-SANs (responsible for preparing master plan, and land use plan). 2-LAs (water supply, and drainage networks, schools, public services and social amenities). 3-The Ile-de-France region (main roads and transportation works). 4- Housing promoters (private and council houses) 5-Specialized investors and businesses (shopping centres and industrial developments). Central government had funded the new towns through general capital grants specific to new towns.	In the beginning, mainly public sector with little participation from private sector in industry projects. But later it had taken its steps towards the private sector gradually. However the Government had constructed the NUCA to represent as the following: 1-NUCA (choosing location, master plan studies, infrastructure and utilities, public services, housing). 2-Consortiums (housing). 3-Bank and insurance investors (housing, industrial developments). 4-Private individual investors (housing, commercial and industrial developments). 5- Housing Development Agencies (sharing in master plan studies, housing). Fund was mainly from Central Government assisted by grants, loans, and direct investments from External resources, but Later private sector involvement was increasing gradually in financing new towns.
Structure of Master Plan	Basically the Master plan contains: -Residential areas. -Commercial areas and public services areas. -Open spaces. -Roads of different levels. -And most of them include industrial area. The design of the plan is based on different Types such as: -Town centre and neighbourhood units as in Stevenage; - Linear planning, the spine of figure and greenbelts as in Runcorn; and -Grid system of roads networks as in Milton Keynes.	Basically the Master plan contains: -Residential areas. -Commercial areas and public services areas. -Open spaces. -Roads of different levels. -And most of them include industrial area. The design of the plan is based on : -Town centre and neighbourhood units.	Basically the Master plan contains: -Residential areas. -Commercial areas and public services areas. -Open spaces. -Roads of different levels. -Most of them include industrial area. -Few include medical remedy centres or regional entertainment centres. The design of the plan is based on : -Town centre and neighbourhood units.

Source: By Researcher based on Documentary Information from Previous Chapters.

political and cultural centres of their countries. Although there are huge differences in the services, the economy, the remainder regions, the geography and the environmental aspects between Cairo, Paris and London, but the urban expansion and economical inflation in these cities have continued, relatively in the same way along with the population and activities distributed since the beginning of the 19th century in Paris and London, and since the 20th century in Cairo.

This had led to the deterioration of the urban environment in general. Thereby, Cairo had shared with Paris and London a set of principles and objectives in the new towns programme. The most important aim was to solve the problem of centralization in the capital. This objective, demonstrated in the three models, was to reduce the load from the centres of the main cities in order to improve the residential densities. Moreover, they all tend to provide employment opportunities and to ensure better living conditions. The programme in the three countries was found as a way to move the increased number of population outside the capital city in order to reduce population congestion, particularly in the capital, and to improve its services level, as well as increasing open spaces on the one hand, and encouraging industrial developments in different areas in the whole region on the other hand.

Planning principles of the new towns programme in the three models -London, Paris, and Cairo- were found, to an extent, similar but the implementation was different. In the three countries, the new towns were planned to be connected to the regional transport network (roads and railways) but, in reality, the means of transport provided were quite different in Britain and France from those of Egypt, especially with regard to railway line as found in the three case studies (tables 7.7, 8.7, 9.7). France, in

particular, had made a great effort in the construction of railways and motorways even; rail networks were to be provided before starting to build these towns. This had played a very important role in the developing process of the new town and, consequently, in its future life.

Hirsch (1993) explores several important observations in the French new towns, which were found as important factors after studying the Egyptian experience, such as: in the French new towns, “housing and employment were balanced, thus reducing commuting” (Hirsch, 1993, p.295), whereas in the Egyptian experience many of the workers in the Tenth of Ramadan, for instance, were not able to find dwellings of suitable level to their income in the new town, therefore, they had to commute from other towns to their work every day (Ch7, sec. 7.3.2). In France, “a free bus service in Cergy and RER rail line was operating when the first residents arrived” (Hirsch, 1993, p.295), whereas in the three Egyptian case studies residents were found to be dissatisfied with the means of transportation, particularly with the railway services (tables 7.7, 8.7, 9.7). In the French new towns “a regional shopping centre was built before inhabitants arrived” (Hirsch, 1993, p.295). Whereas in Badr and Shekh Zayed towns, the development of shopping centres was left till the end, after the housing sector was constructed in the town (Ch8, sec.8.3.5). In the French new towns “architectural variety was considered as an object” (Hirsch, 1993, p.295), whereas the pictures of Badr and the Tenth of Ramadan show the lack of an architectural variety. Only in Shekh Zayed, in areas privately designed and financed can any real architectural variety be seen (figures 7.11, 8.14, 9.9).

Regarding the site selection of new towns, it was found that most of new towns in Egypt were built on empty virgin lands, where no one ever lived before; whereas in Britain and France, the location of most of new towns was chosen adjacent to some existing villages, where a small human nucleus exists. Therefore, they are not created from scratch, making use of the services and utilities already established in these villages, particularly in the first development stages. Despite the fact that some new towns in France were selected on virgin empty lands as well, especially those around Paris, they were supported by a powerful transportation infrastructure. Other points are explored through putting together the three capitals' maps in figure (11.1) for a comparison, taking into consideration the different starting period of the new towns' programme in each country. The following observations are highlighted:

-The figure shows that, new towns around London and Paris are of relatively small and medium area sizes, compared to the size of their capitals urban agglomeration. Whereas, they are of big size around Greater Cairo, compared to its urban agglomeration. Although density in Cairo is much higher, requiring more space to be dispersed, but Greater Cairo actually took thousands of years to grow to its current size, which is not much bigger than the size of some of the planned surrounding new towns, such as New Cairo Town for instance.

-The second observation from the figure is that, the areas separating new towns from their mother cities are greenbelt areas, in the example of Paris and London, whereas they are empty desert in the example of Greater Cairo, except small green belts surrounding each of the new towns. This actually what made the way between the new

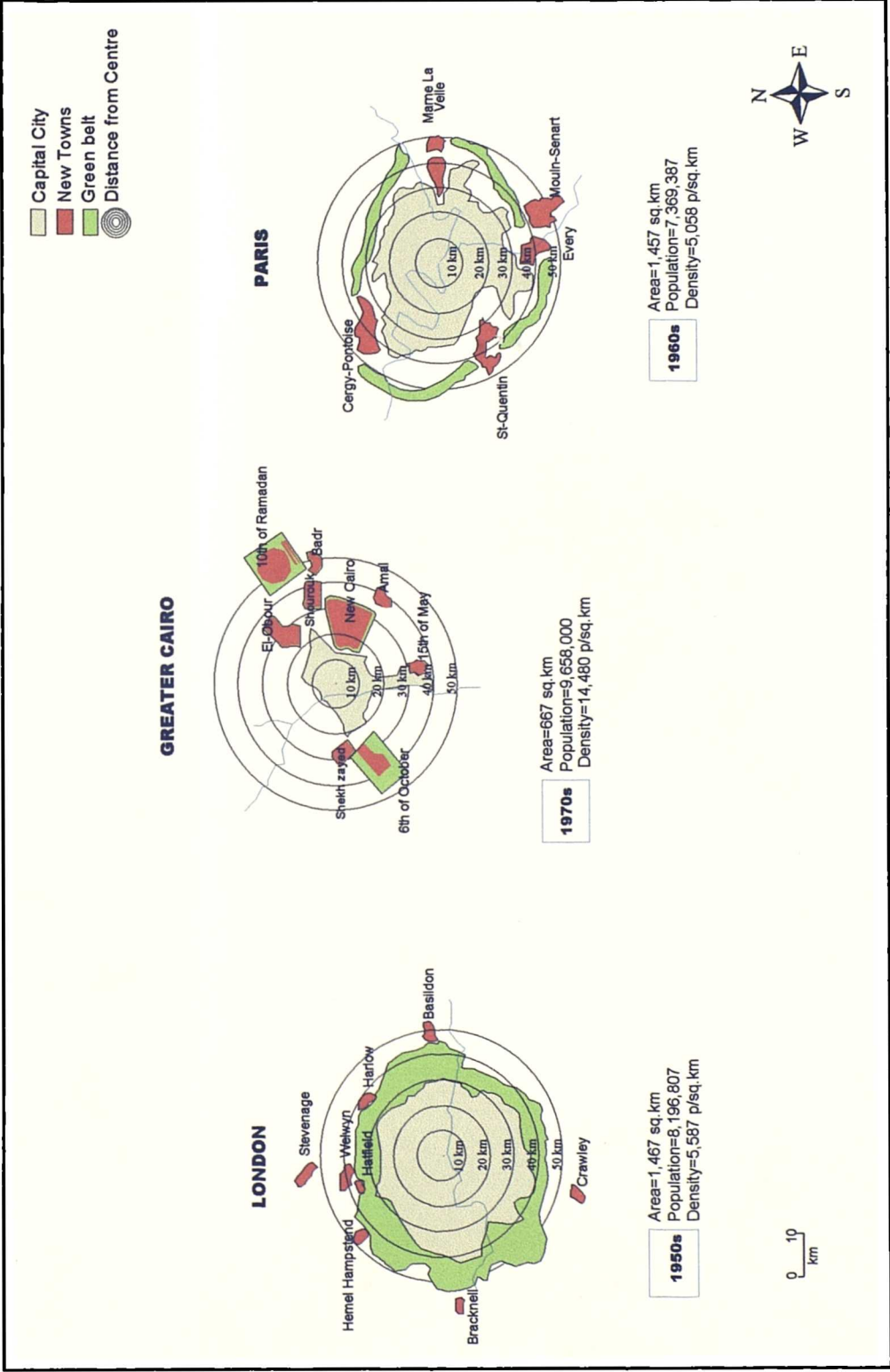


Figure 11.1: Comparison Between London, Paris and Greater Cairo capitals and the New Towns surrounding them.
Source: By Researcher based on figure 3.2, figure 3.9 & figure 6.5; Ministry of H.U.NUC, 1989, p. 22; Demographia (2001a, 2001b).

towns and the capital city seems to be longer and more boring than it is (Focus Groups in the three case studies, 2002). Greenbelts and agricultural lands have made a good and pleasant connection between the new towns and mother cities in Britain and France.

-The third observation is that, the towns, particularly those surrounding capitals in the three countries, are all found in the orbit of their mother cities, not exceeding 55 km. The five French new towns surrounding Paris are the nearest to their mother city within a distance of 15-35 km; and the eight (Mark I) British towns surrounding London are of a distance between 20-50 km to their mother city. In Egypt, as well, the nine towns surrounding Greater Cairo ranged from 15–55 km from Cairo. Although there is a slight difference among these distances, but this is due to different periods of time when these towns were constructed in the 50s,- 60s -70s, and also the means of travel and costs had changed during those periods, which would affect choosing the distance. For instance, in Britain itself, Mark III towns are relatively further far from major cities than those of Mark I and II.

Moreover, the number of population targeted in those new towns had varied in the three countries. The British new towns had started with a small population number, such as 30,000 inhabitants, as in Stevenage new town. This number had increased in Mark II and III new towns but did not exceed 250,000, as in Milton Keynes new town (Ch3, sec.3.1.3). The French new towns had in fact catered for between 100,000-200,000 inhabitants only, compared to the projected 300,000 to 500,000 in their master plans (Ch3, sec. 3.2.3). Whereas, the majority of the Egyptian new towns had ranged between 250,000 to 500,000 and even some new towns had a target of 1,500,000 but none of

them achieved its projected number (Ch6, table 6.1). Thus, neither the French nor the Egyptian towns had reached their expected population sizes. This suggests that small and medium sizes of new towns, those of not more than 200,000 residents, would be more acceptable and reasonable to achieve in a limited period of 20-25 years. Lessons from developing countries' experiences in new towns, as will be explored later, comply with this concept. This actually advocates one of the design principles of Howard "small in size, independent and self contained" (Perloff and Sandbury, 1972, p.vii).

In terms of public services, it was found from chapter three that there was a great emphasis on the new towns' centres, as well as on transportation facilities, in France in particular. The government's policy was to create the urban centre, at the same time, of developing an initial housing sector in the new town, even before starting building dwellings. Actually this had offered a location for start-up companies and, consequently, for services and job-opportunities, which usually attract people. In Egypt, on the other hand, public services were left till the end, until after housing sector developments. Therefore, towns remained vacant in most of their parts, because, basically, transportation and jobs are the sinew of town's life. French and British new towns had succeeded probably because they contained a good balance of jobs and housing at one time, not left just as dormitory settlements.

One of the common factors in the three countries, is the fact that the new towns policy was set up by the central government (public sector), which is the prime responsible for initiating, financing, building and managing new towns. But in terms of management structure, the French system was based largely on central government. The central government was involved in the whole process of new towns' building and slight

involvement was given to local authorities and the private sector. The central government had to divide different projects works of new towns developments among different associations and bodies working under its supervision and control (Ch3, sec. 3.2.2). Whereas in the British system, the role of central government took the greater part in the process than the LAs and private sector in Mark I and Mark II. In Mark III, there was more involvement of the private sector, working in partnership with the government. Sometimes, county councils worked closely within the development corporations throughout Mark III, and its work was to an extent effective (Ch3, sec.3.1.2). Yet, there was a good control from the government in the case of Britain and France's implementation process, which went in a balanced way and appeared in the good distribution of responsibilities in the development process, preserving both the role of the government and the private sector. This confirms Rubenstein following point:

“New Towns economical success depends upon a rational distribution of responsibilities between the public sector and private sector”.

(Rubenstein, 1978, p.91)

Moreover, a very important point was found supporting that is the economy of the government in Britain and France which was strong enough to take the great part of the funds required for such projects on its own ability. This is contrary to the situation in Egypt, especially recently, as found in previous chapter. In Egypt the process started in the same way as in the French experience, as the government was the prime leader of managing and developing the new towns, but later, when the government realized the shortage of fund to complete these towns, the situation had changed, with no comprehensive plan for the relationship between the public and the private sector. The private sector was extremely involved in the financing and developing process and the

Egyptian government started losing its control on the development process. Consequently, as explored before, none of the 17 new towns was completed until now.

However, Britain and France are considered rich countries and their success in the new towns programme was affected, to a high extent, by this factor. The Government kept controlling the process, in spite of the private sector involvement. Whereas in Egypt, the government recently announced a shortage of funds and its inability to complete financing the new towns. So, here the government was obliged to accept the private sector conditions to continue the developing process of the remaining uncompleted new towns.

11.2 Lessons from Developing Countries Experiences

It was found that, the three developing countries studied (Saudi Arabia, Algeria, and Egypt) had started the new towns' programme at the same time. This was in the 1970s particularly, after urbanization had followed the industrialization boom period when Saudi Arabia planned the two new towns and had built them. Algeria, as well as Egypt, thought of building greater number of new towns and had started their development process but most of them are still under construction. Although the three countries had looked for similar aims, of absorbing population pressure from major cities and encouraging industry and energy resources investments, the priority of one aim to another was different from one country to another. A summary of the comparison among the three countries is in table (11.2).

In Egypt, the most important motive, which led the government to think of building the new towns was, at first, to overcome the excessive growth of population, particularly in

Table 11.2 Comparison between Saudi Arabian, Algerian, and Egyptian New Towns

New Towns Characteristics	Saudi Arabia	Algeria	Egypt
Date of Designation	1970s	1970s-1990s	1970s-1990s
Aims	1-Mainly servicing the energy installation (Oil) and encouraging industrial developments. 2-Absorbing metropolitan expansion and pressure of population growth for a balanced distribution overall the country.	1-Mainly servicing the energy installation (Gas & Oil) and encouraging industrial developments. 2-Absorbing metropolitan expansion and pressure of population growth for a balanced distribution overall the country.	1-Mainly to reduce congestion in major cities particularly Cairo. 2-To absorb metropolitan expansion and pressure of population growth. 3-To encourage industrial developments in depressed areas.
Location	A bit far away from their 'mothers' major cities with distance ranging between 100-320 km. Sites are chosen mostly on virgin lands but with powerful transportation infrastructure near energy resources and established industries. Most of the towns are built in the semi-desert on infertile lands and distances separating new towns from mother cities are desolated areas..	Of different distances but most are a bit far away from their 'mothers' major cities however these distances range between 40-200 km. Sites are chosen mostly on previously occupied small existing settlements (villages) and also near energy resources and established industries. Most of the towns are built in the semi-desert on infertile lands and distances separating new towns from mother cities are desolated areas..	There is no specific distance range for specific generation but each generation included towns that are very near to their mother cities 4.5 km, others were far about 55-100 km but the majorities were between 15-40 km from mother city. Sites are chosen mostly on virgin lands with poor transportation infrastructure. Most of the towns are built in the semi-desert but some on fertile lands and distances separating new towns from mother cities are desolated areas.
Size of Population	Towns were constructed for an average number between 150,000 to 280,000 resident.	Towns were constructed for an average number between 40,000 to 200,000 resident.	There is no specific size range of population for each generation but different sizes in each one , some were of small size such as New Tiba 35,000 resident and others were of big size such as New Cairo 1,500,000 resident. But the majority is ranging between 250,000-500,000 resident.
Developing & Funding	Government had constructed the Royal Commission SARC for supervising, managing, and distributing projects of new towns' developments among different bodies: 1-The SARC itself (infrastructure and superstructure developments). 2-International Bechtel Incorporated IBI (preparing master plans) 3-PETROMIN and SABIC (industrial developments).	Government had constructed the AADL for supervising, managing, and distributing projects of new towns development among different bodies: 1-AADL itself (housing, infrastructure, public services and also industrial developments). 2-Private sector (few industrial projects in the beginning but later was involved in housing sector as well).	In the beginning, mainly public sector with little participation from private sector in industry projects. But later it was takes its steps towards the private sector gradually. However the Government had constructed the NUCA to represent it in supervising, managing and distributing development works of new towns as the following: 1-NUCA itself (choosing location, master plan studies, infrastructure and utilities, public services, housing). 2-Consortiums (housing). Bank and insurance investors (housing, industrial developments). 3-Private individual investors (housing, commercial and industrial developments). 4-Housing Development Agencies (master plan studies, housing).
Structure of Master Plan	Basically the Master plan contains: -Residential areas. -Commercial areas and public services areas. -Open spaces. -Roads of different levels. -Industrial area. The design of the plan is based on : Town centre and neighbourhood unit.	Basically the Master plan contains: -Residential areas. -Commercial areas and public services areas. -Open spaces. -Roads of different levels. -Universities or high education institutions. -And most of them include industrial area. The design of the plan is based on different Types such as: Town centre and neighbourhood unit; Linear planning, the spine of figure; and Grid system of roads networks.	Basically the Master plan contains: -Residential areas. -Commercial areas and public services areas. -Open spaces. -Roads of different levels. -Most of them include industrial area. -Few include medical remedy centers or regional entertainment centres. The design of the plan is based on : Town centre and neighbourhood unit.

Source: By Researcher based on Documentary Information from Previous Chapters.

the capital 'Greater Cairo'; and to encourage industry in depressed areas as a national income resource and provision of economic-base for residents expected to occupy those towns. Whereas, as found in chapter four, the Algerian and Saudi Arabian governments aimed at first to get an equal use of the resources available (Oil and Gas) throughout the country, encouraging by that industry, and also using those new towns as a way to reduce population pressure in the major cities. This is basically due to the fact that in Egypt, the capital is the one specific city where most of the Egyptians live; whereas, in Algeria and Saudi Arabia, population growth and pressure are distributed among two or three major cities (Ch4, sec.4.1.1; sec.4.2.1). Therefore, the problem is less intense. However, it still remains a major problem particularly that the population concentration in the three countries is somehow similar, on a very small percentage of the whole nation area. In Egypt, the population is concentrated in the Nile valley and Delta area, while in Algeria it is concentrated in the northern part on the Mediterranean coast. Similarly, in Saudi Arabia this concentration is at the Red sea and Arab Golf areas.

In addition, these countries share the same traditions, the way of living and thinking. There is, however, a difference in the economy, for instance, Saudi Arabia in the 1970s was classified as a rich country, whereas, Egypt wasn't classified in the same category, with regard to the economy and average income of the individual (table 11.3). Although the three countries had started the process at the same time and, with relatively similar aims, there was however, a difference between the three experiences in some of the planning principles, such as in choosing the location, the size of population and the transport facilities provided, as well as the implementation process, including the management and finance of these new towns. These points will be highlighted in the following paragraphs:

Regarding the location, it was found that the Algerian new towns' sites were chosen where a nucleus of a small community already exists (Ch4, sec.4.2.3). Although these sites were a bit far away from mother cities, sometimes 200 km, they were however, selected near energy resources or established industries and so employment opportunities were available in advance. In Saudi Arabia, it was found that the new towns were built on virgin lands, a bit far from mother cities, but also near energy resources and ports exporting products of the industries built near these resources (Ch4, sec.4.1.3). Whereas, in Egypt, the locations of new towns were found selected on virgin lands, within a small distance from mother cities, and not necessarily near industries or energy resources. Some towns had industrial areas considered from the beginning, in their master plans, such as the Tenth of Ramadan town, but others hadn't. Therefore, industry was to be added later to the master plan of the town, after starting the building process and finding out that the town was not attracting people, as in the case of Badr town for example (Ch8, sec.8.0).

Country	GDP per Capita (\$)
United States	31,500
France	22,600
United Kingdom	21,200
Saudi Arabia	9,000
Algeria	4,000
Egypt	2,850

Table 11.3: Gross Domestic Products express Economic Level of Countries Studied.
Source: CIA World Factbook, 1999.

As a matter of fact, the economic-base is probably a very vital factor in a new town's life, especially when building on virgin lands that would be acceptable, if transportation facilities are well provided, particularly rail networks, as in the examples of Jubail and Yanbo towns in Saudi Arabia and Oum Al Bouaghi town in Algeria. Those were built on virgin lands, but their development constructions did not start until a railway line was constructed, penetrating them and connecting them to different parts in the nation

(Ch4, sec.4.1.3; sec.4.2.3). Even other towns built on previously occupied areas in Algeria were also well connected to the regional railway network. In Egypt, on the other hand, the new towns started their development process, and now, after 20 to 25 years, there is no rail networks operating there. Although as a site they are connected to main regional road networks, but in spite of that, means of transportation serving these towns are very limited and insufficient. In fact, connection to rail network is so important in the life of new towns.

The size of population projected differed from one country to another. In the Saudi's programme, new towns planned were of medium size, ranging between 150,000 to 280,000 residents, and records of 1999 showed a significant increase in the number of people transferred to those new towns (Ch4, sec.4.1.4). The same applies to the Algerian programme, where the size of targeted population ranged from 40,000 to 200,000 residents, that is small to medium size. This targeted population size however increased in the Egyptian towns that were of different sizes, small to medium to big, but as an average most of them planned for between 250,000 to 500,000 inhabitants, which is relatively a big size in comparison. Recent records showed in previous chapter that very few people had transferred to Egyptian new towns.

Moreover, the services provided in Saudi Arabia and Algeria, such as Petroleum educational institutions in the Saudi Arabia towns, universities, and government institutions in the Algerian towns, as found in (Ch4, sec.4.2.3) had played a very important role in attracting people to live in the new towns.

As far as the financing and management are concerned, it had been observed that the three countries had the intention of retaining the whole control, responsibility, and finance of the programmes in the hands of the public sector only. The Saudi Arabian government had thought, in advance, of engaging the private sector, from the beginning, in investment in some specific projects of profit nature, but according to government terms and under its control, reserving public sector money for developing other projects in the town. Whereas, other countries such as Egypt and even Algeria, thought that the public sector could bear the whole responsibility of financing new towns projects alone, and started the process until they found themselves finally unable to continue in the same way they had started. They were eventually obliged to involve the private sector in different projects and, sometimes, under terms of the private sector in order to complete the development process. Consequently, gaps had appeared in the implementation process of those new towns as government was gradually losing its control over them.

It looks as if there was no long term planning, from the first stages of the process, whether the government's budget was capable of carrying out such projects or not. However, even Saudi Arabia and Britain, which are considered as rich countries, had not left the whole process to public sector only, but to public-private partnership. There were development corporations and other different private agencies that had shared in the development process from the beginning under government control, at the same time, given a bit of freedom in determining things that do not affect or change the main aims of the new towns programme as a whole and at the same time facilitate their work.

“Partnerships between public organizations and private enterprises are seen as a mean by which urban government can get more done....They are considered

especially relevant for urban government that lack the capability and funds to meet their responsibilities for infrastructure and service provision”.

(IIED, 2000, p.1)

The final point in this comparison is in the master plan and the work plan of those towns. In Saudi Arabia and Algeria, international consultant bodies, which have previous experience in this field and good information and sufficient knowledge of the programme, prepared those plans. Whereas, in Egypt, the government depended on foreign expertise consultants in the early planned towns, such as the Tenth of Ramadan where SWECO company had prepared its plan and shared in the supervision of the development process in the early stages. But later, and before reaching a good stage in understanding the whole managing and developing process of new towns, the government started depending on national bodies in arranging new towns master plans. Those bodies did not have enough experience and had no sufficient information of planning such a big process. This indicates that the idea of new towns was really transferred from western countries, which had experienced the phenomenon earlier, but actually the idea needed more time to ripen in the minds of national planners.

Basically, the comparison study among all the countries studied: Britain, France, Saudi Arabia, Algeria, and Egypt (the main case study) showed that the problem of new towns in the developing countries is not in being an idea transferred from the western world and applied in different environment in the middle east and north Africa where circumstances differ, but it is in the planning and the implementation process itself. Although we cannot ignore the reality of different traditions, culture, and even the climate, but these factors appear mainly in matters related more to dwellings design (architectural matters) and residents in the three case studies did not complain from the design style of their dwellings as they are already used to it. However, after studying

the analysis of the field survey, together with the lessons obtained from the experiences of developed and developing countries, findings of the research can be drawn.

11.3 Findings of the Research Study

Reviewing the main problems found in the three case studies investigated in previous chapters, some criteria are suggested to be considered in planning and designing new towns as well as solution proposals for their main problems:

	Tenth of Ramadan	Badr	Shekh Zayed
Main Problems	1-Didn't achieve number of population targeted. 2-Job-opportunities exceed the target but no balance between the number of population employed and the number resided. 3-Shortage of low and middle-income level dwellings. 4-Means of public transportation are insufficient and no railway service. 5- The town is located on a fertile land.	1-Population resided is far behind target. 2-Job-opportunities are very little. 3- Most of built dwellings are of bad quality and appearance. 4- Shortage of public services. 5- Means of public transportation are insufficient and no railway services. 6- The town is located on a fault in the ground and also it is very close to another new town. 7- Shortage of fund.	1-Population resided is far behind target. 2-Job-opportunities are very little. 3- Shortage of low and middle-income level dwellings. 4-Shortage of public services. 5- Means of public transportation are insufficient and no railway service.

Table 11.4: Main Problems in the three Case Studies.
Source: By Researcher, derived from chapters 7,8 and 9.

Basically, the main problem found is in the management and implementation process of the new towns programme in Egypt. Management is one of the most important factors, which plays a vital role in the success of new towns projects. Poor management can always spoil the best master plan, while good management can draw the best out of a poor plan. However, it was found out from the research that:

1-Most of the earlier discussions about the population size of a new town in the experiences studied had showed that small and medium sizes ranging between 100,000-200,000 residents were more realistic to achieve, especially in a limited period of 20-25 years. Another important factor related to the size of a new town seems to be the 'modular growth system' or 'stages system', which is about the design of the master plan itself that would be more practical if it is planned on the basis of the 'modular growth system' giving the opportunity of a natural and gradual growth for a new town. In this system, each stage or sector includes its whole own local facilities (shopping areas, health centres, educational facilities, etc.) and the implementation process starts constructing, stage after stage, finishing each stage completely before starting the other. Thereby, each stage could manage alone, like a separate town, even if the whole master plan was not implemented completely. The Tenth of Ramadan Town gave a good evidence of that, as two stages only were found built in the town (stage 1 and 2) and, in spite of that, the life was found active in the new town.

2-The 'modular growth system' or the 'stages system' could also help in encouraging the town to build itself by itself using the revenues of the already built and occupied stages of the town to complete the remaining stages in the master plan and consequently the new town becomes financially independent.

3-Although the public and commercial services were stated in the planning theory to be provided in a new town, the important point in this issue is about the suitable time of starting the construction of these services. The population of the Egyptian new towns would have been more satisfied if public services had been constructed in parallel with housing development rather than building dwellings first in the town and then starting

the construction of public services. This would reduce the need for daily commuting, with its obvious negative effect on transport, and public services existing in major cities. The Egyptian towns were found, in most cases, starting with housing sector developments and then came public services, industry, etc. In fact, public and commercial services are better to arrive and be available in the town before residents move to settle in a new town.

4-The same applies to means of transportation. The importance of linking the new town to transport networks was always recommended in the planning theory of new towns. The important point in this issue is that some means of public transportation have to be in operation when the first residents arrive (as in the French, Algerian and Saudi experiences), even if the number is little for a bus or train to operate regularly. Transportation facilities may play an important role in creating a balanced social mixture of different social levels in the towns and in keeping residents in touch with other relatives in other cities. Consequently, this overcomes the isolation feeling that usually appears in the early years of a new town life and gives the residents more choices in their relations. A person might choose his friends from a population, maybe of a million, having the same interest and share feelings or matters of life rather than from people who happen to live next to him.

5-Population attraction techniques have to be improved in a new town, providing complete life facilities: jobs offers, recreational activities, malls, schools, etc. It is likely that further and higher education institutions would benefit the new towns by attracting a great number of young people to migrate to places where they can complete their studies at these educational institutions (as in the Algerian experience). Besides,

establishing branches of government institutions and administration staff, would help in minimizing journeys to the capital city and would save time and effort, which will then help in the developing and improving of the new towns.

6-Regarding housing issues, the policy of mortgages and housing incentives are usually provided to new residents in a new town programme but in spite of that there is also an important point in deciding priorities in housing people in the town. It may be better to give priority first to those who are working in the town keeping by that a balance between the number of housing units built and the number of job-opportunities provided in the town itself. Besides, it is essential to achieve a stable life in a new town by keeping a balance in the construction of different income-levels dwellings. Thus, priorities in the implementation process have to be studied carefully and also tested from time to time, according to changes in needs in a new town. Permanent plan evaluation and annual reports are important to adjust master plan and tasks during the whole period of the implementation process.

7-Actually, there were different opinions about the location of the new town, which differed from one country to another. Some new towns were chosen to be located near major cities and others near economic resources. The research suggests that chosen sites must have success potentials like: demographic bases such as small villages, natural resources and economical activities. Locating new towns near places where job-opportunities could be provided and easy to create is of more importance than locating them near major cities, even if they were constructed to absorb excessive growth population. This is because locating them near major cities would be a barrier in the face of new towns independence; and in addition, the new town would put an extra

pressure on major cities. Thereby, instead of solving the problem, the new town will accelerate it. This is illustrated by the two case studies of Badr and Shekh Zayed towns which were much more nearer to Greater Cairo from the Tenth of Ramadan, but in spite of that the Tenth of Ramadan situation was found much better than the others.

8-Moreover, in choosing new towns location, geological and topographical studies of the land are important to be considered. This is to avoid problems such as the existence of faults in the ground (Badr Town), and also protecting the agricultural resources by avoiding the selection of fertile lands as sites for new towns (the area of Tenth of Ramadan), particularly, in countries of desert nature and small amount of fertile lands and green field areas. This point could be sustained to a high extent by the GIS programme techniques in site location, as explained in the previous chapter. This is in order to protect the agricultural economy of the nation, especially as most of the developing countries constructing new towns have a wide vacant part of it unused.

9-The suggestion to build a number of new towns in a country is usually decided according to population growth trends, but actually it is of more importance to be decided according to the country's budget as well regarding the ability of funding more than one town together. It is very essential that the government is aware of its real budget devoted for a national programme, such as the new towns and not to get involved in a massive project greater than its ability. Even if the government's budget is affordable to provide a number of new town, it would be preferred to develop these towns one by one, leaving some time between finishing one and starting the other, instead of starting the construction of many towns at the same time (as found in the Egyptian and Algerian experiences). This is actually to learn from the mistakes and

obstacles that may occur during the implementation process of the previous built town. Avoiding those mistakes and obstacles in the implementation of the following town, would lead to a better achievement in future plans and implementation processes.

10-The three case studies showed that co-operation between public and private sectors is essential in new towns projects as such projects require a massive source of money to finance, and the national budget might be unable to afford that alone by itself. The government has to encourage the partnership policy between the public and the private sectors. It would be wrong however to rely exclusively on public sector for funding new towns programmes (as in Badr Town) or relying exclusively on the private sector (as in Shekh Zayed Town). Some programmes were aborted because funds couldn't be secured. However, the need for public sector funds is usually much greater in the earlier years of the new town's development process than in later years, when the skills of policy-makers are required to attract the private sector to participate in new towns development tasks.

11-Encouraging the partnership between public and private sectors in performing new towns projects has to be accompanied by a framework within which a great partnership can develop and be more effective. This is to ensure that the priorities of low-incomes and other disadvantaged groups do not get pushed aside by private sector investors who always resort to chasing profits, thereby protecting the new town from losing its main aim of construction (as happened in Shekh Zayed town).

However, the new towns programmes had been developed as tools of policy for reshaping urban form. At the same time they were used as a field for testing new

planning and design techniques to improve the urban life. It is a fact that the provision of much suitable housing and public services facilities may be much easier and better distributed in new sites more than in existing congested cities. It is also a fact that such big projects have long development periods and that their benefits would not materialize except over a long span of time. New towns projects can, over a period of years, be a great national investment process. However, considerable sums of money have to be spent before any revenue is obtained. New Towns could become fruitful national investment resources when they start 'paying back their way' and government's efforts are towards sustaining those new towns as successful economical projects.

11.4 Conclusion

The originality in this research is that it has drawn together experiences from developed and developing countries in Europe, the Middle East and North Africa, and used empirical studies of the Egyptian new towns programme to provide a deeper understanding of the problems of planning and implementing new towns in developing countries than was hitherto the case. Through the analysis of Egyptian documentation, expert interviews, social and other surveys in three case study new towns it has been possible to reach some conclusions that add to knowledge about the theory of new town development. Whilst these conclusions relate particularly to Egypt, there are also lessons for developing countries more generally.

The conclusions of this thesis suggest that:

- The sites of new towns need to be carefully selected to ensure that the location has some potential for sustained economic growth (such as natural resources, demographic

bases and good communications) and avoid physically inappropriate areas (such as areas of high agricultural value and flood plains).

-It seems from experience that smaller and medium sized new towns with more modest population targets are more likely to be achieved than more ambitious proposals. It is also important that the total size of the new town development programme is feasible and realistic in relation to the capacity of the national economy (both public and private sectors), the rate of population change, and the capacity of households to afford costs of relocation.

-Furthermore, there appears to be benefits in developing new towns on a modular system as this provides an appropriate range of local services and amenities at each stage of growth and means that the town can accommodate possible future changes in the speed of development without detriment to the functioning of the completed parts. It also seems to be the case that new towns that involve collaboration between the public and private sectors have more flexibility with regard to the sources and types of development funding and are more likely to succeed.

-A minimum level of local services and amenities, including public transportation needs to be provided from the outset in order to ensure that even the earliest residents experience satisfactory living conditions.

-In all cases it is important that the rate and nature of development is carefully monitored and reviewed in order that adjustments can be made to the programme and a balance can be maintained between the rate of growth and the provision of housing, employment, services and amenities.

To sum up, the new town programme requires careful location and planning within the economic capacity of the development system. A new town is an integrated system of

housing, employment, infrastructure and amenities that must be developed in a coordinated and balanced way; successful development is likely to involve both the public and private sectors each making different contributions, with implementation being monitored and reviewed to ensure responsiveness to the evolving needs of the incoming population and economic activity.

References:

- Abd- Al Lattif, A., (1998) Greater Cairo Region Urban Growth. Ms.c Thesis, Helwan University, Cairo. (In Arabic)
- Abd- Al Maksood, S., (1987) Regional Disparities and Regional Growth Strategy: New Town Policy in the Framework of Economic and National Growth Policy. National Planning Institute, Cairo. (In Arabic)
- Abou-Aeana, F., (2002) Population Problem and the Importance of Comprehensive Solutions. Report, *Ahram News, August 2002 Series No. 42261*, Cairo. (In Arabic)
- Abou-Zeid, A., (1979) New Towns and Rural Development in Egypt. *Africa, Vol 49, No.3*, Pp.283-290. American University, Cairo.
- Abu-Lughod, J. And Hay, R. (1979) Third World Urbanisation. Methuen Inc.
- Albasel, A.A., (2000) Autonomy in New Towns. Reportage with the Minister of H.U.NUC. *Ahram News, August 2000 No.41519*. Cairo. (In Arabic)
- Al-Boainain, A.A., (1993) The Experience of Qatar Country in the Field of New Towns, In Research and Practical Studies On Arab and Foreign New Towns, ed. M.K Rabee, and T.A Abo Al-Atta Pp 181-188. *New Towns Symposium Vol 4*, Arab Urban Development Institute. (In Arabic)
- Aldridge, M., (1979) The British New Towns: A Programme without a Policy. Routledge, London.
- Algiers Town Council, (1993) Bougzoul New Town Project. In Research and Practical Studies On Arab and Foreign New Towns , ed. M.K., Rabee, and T.A. Abo Al-Atta Pp.387-394. *New Towns Symposium Vol 4*. Arab Urban Development Institution. (In Arabic).
- Al-Kalifa, E.A, (1993) Hamad Town...A Great and Civilized Performance, In Research and Practical Studies On Arab and Foreign New Towns, ed. M.K Rabee, and T.A Abo Al-Atta Pp 165-170 . *New Towns Symposium Vol 4*. Arab Urban Development Institute. (In Arabic)
- Allam, A.K., (1990) Planning of New Towns in Egypt at the Context of Planning Framework. A paper represented in 'Human Resources in the 21 Challenge Century' Conference. Cairo, Egypt.
- Al-Moragi, M., (2000) Towns for Sale: The Final Walkout Line. Report, *Ahram News, August 2000, Series No. 41511*, Cairo. (In Arabic)
- Al-Nuaim, A.A., (1996a) Improving Living Environment for the Low-Income Households: Saudi-Arabia. Arab Urban Development Institute (AUDI), Riyadh, Saudi Arabia.
- Al-Nuaim, A.A., (1996b) New Towns in Saudi Arabia: Past Experience and Future Prospects. In New Urban Communities: Past Experiences and the Future of Cities.

INTA Cairo International Conference Centre, (October 1996). Ministry of Housing, Utilities and Urban Communities.

Aronoff, S., (1989) Geographic Information Systems: a management perspective. Ottawa, Canada: WDL Publications.

Atkinson, S., (2000) New Towns U.S.A.
<http://www.ar.utexas.edu/Av/Atkinson/lecture9/town1.html>

Babbie, E., (1995) The Practice of social Research “7th ed. Wadsworth, California, USA.

Babbie, E., and Halley, F., (1994) Adventures in Social Research: Data Analysis Using SPSS. Pine Forge Press, California.

Bailey, J., (1973) New Towns in America: The Design and Development Process. Wiley and sons, London and New York.

Batty, M., (1989) Urban Modelling and Planning: Reflections, Retro diction and Prescriptions .In Remodelling Geography, ed. B Macmillan Pp 147-170. Blackwell, Oxford.

Batty, M., (2002) A decade of GIS: What next? Environment and planning B: Planning and Design Vol. 29, Pp 157-158.

Bayat, A., and Denis, E., (2000) Who is Afraid of Ashwaiyyat? Urban Change and Politics in Egypt. *Environment and Urbanisation* Vol 12 No 2 October 2000.

Beevers, R., (1988) The Garden City Utopia: a critical biography of Ebenezer Howard. Macmillan, London.

Beghin, P., Guillaumin, G., and Debost, J.Y., (1993) The Funding of New Towns. In 25 Years of French New Towns. Ch II-2 .Ministry of Public Amenities, Housing, Transport and Maritime Affairs. Economic Interest Group (translated by Alan Lee), Paris.

Bell, C& R., (1969) City Fathers: The Early History of Town Planning in Britain. Barrie and Rockliff, England.

Belousov, V.N., (1978) Policies and trends in the Development of New Towns in the USSR. In International Urban Growth Policies: New-Town Contributions, ed. G Golany Pp 381-396. Wiley, Canada.

Berratt, B., Chapman, P., and Davies, L., (1975) Flexibility: The Plan for Milton Keynes. Milton Keynes Development Corporation.

Berry, B.J.L., (1993) City Size Distribution and Economic Development..In Regional Development and Planning, ed. J. Friedmann, and W. Alonso , Pp 138-152. M.I.T Press.

-
- Boesiger, W. (ed.) (1957) Le Courbusier: The Complete Architectural Works 1952-1957 Vol 6. 4th ed. Pp 51-109. Birkhauser, New York and Switzerland.
- Bofill, R., (1999) Taller de Arquitectura: Urban Projects. Taller de Arquitectura, Barcelona. <http://www.bofill.com>.
- Boussora, K., (1990) Regionalism: Lessons from Algeria and the Middle East. In MIMAR 36: Architecture in Development. London: Concept Media Ltd .
- Branch, M.C., (1985) Comprehensive City Planning: Introduction and Explanation. Pp.177-187. American Planning Association, Chicago.
- Bryman, A., (2001) Social Research Methods. Oxford University Press Inc., New York.
- B.T.C (Badr New Town Council), (2000) Badr Town: Annual Report. Ministry of Housing, Utilities, and New Urban Communities, Cairo. (In Arabic)
- Burton, D., (2000) Research Training for Social Scientists. Sage, London.
- Cammen, H.Van der., (1988) Four Metropolises in Western Europe. Van Gorcum in cooperation with the Praemium Erasmianum Foundation.
- Campbell, C.C., (1976) New Town: Another Way to Live. Reston publication Company, Virginia.
- Campbell, S. and Fainstein, S., (1996) Readings in Planning Theory. Blackwell Ltd, Oxford.
- CAPMAS (Central Agency for Population Mobilisation and Statistics), (1996a) Egypt Statistical YearBook, Cairo, Giza and Qalubia Governorates, Cairo, Egypt. (In Arabic)
- CAPMAS, (1996b) General Census of Population, Housing and building: Sharkia Governorate. Cairo, Egypt. (In Arabic)
- Chapin, M.H., (ed.) (1994) Algeria: A Country Study. GPO for the Library of Congress, Washington. <http://www.lupinfo.com/country-guide-study/algeria/algeria65html>
- Cherry, G.E., (1988) Cities and Plans in - The Shaping of urban Britain in the Nineteenth and Twentieth Centuries. Edward Arnold, London.
- Chomentowski, V., (2000) The Institutional Environment of French New Towns Since their Inception and Likely Future Developments, (September 2000) <http://newtowns/03-publication/french-nts.htm>
- Christie, I.T., (1984) Political, Economic and Social Issues: District Restructuring in Annaba, Algeria. In Continuity and Change: Design Strategies for Large-Scale Urban Development, ed. M.B Sevchenko, The Aga Khan Programme for Islamic Architecture. *Social, Political Considerations*.

-
- CIA World Fact book, (1999) GDP per Capita Ranking. <http://www.geographic.org>
- Clapp, J.A., (1971) New Towns and Urban Policy: Planning Metropolitan Growth. Dunellen, New York.
- Clark, P., (1976) The Early Modern Towns. Longman, Open University Press.
- Clawson, M. and Hall, P., (1973) Planning and Urban Growth: An Anglo-American Comparison. John Hopkins University Press, Baltimore and London.
- Collins, (1999) The World Political Map. Harper Collins, London.
- Corden, C., (1977) Planned Cities: New Towns in Britain and America. Sage, London.
- Costello, V.F., (1977) Urbanization in the Middle East. Cambridge University Press, Cambridge.
- Coulelis, H (1991) Requirements for Planning-Relevant GIS: A Spatial Perspective. *Papers in Regional science: The journal of the RSAI* 70, 1: 9-19.
- Crawley-Online, (1997) An Inquiry into Post-War New Towns in Britain. Ch 1,2,3. www.crawley-online.eurobell.co.uk
- Creswell, J.W., (1994) Research Design: Qualitative and Quantitative Approaches. Sage, london.
- Cullingworth, B., (1997) Planning in The USA: policies, issues and processes. Routledge, London and New York.
- Cullingworth, J.B., (1979) New Towns Policy. *Environmental Planning 1939-1969 Vol III*. The Trinity Press, Worcester, and London.
- Daghistani, A.M.I. (1983) Jubail and Yanbu: Cities for Future. Ministry of information, Kingdom of Saudi Arabia. (In Arabic)
- Daghistani, A.M.I. (1993) The Problems of Rapid Urban Growth, in, *New Towns Symposium Vol 2*, Pp1-20. Arab Urban Development Institute. (In Arabic)
- Demographia, (2001a) Greater London, Inner London and Outer London Population and Density History. *A Top National Journal Internet Site*, Wendell Cox Consultancy, Belleville, USA.<http://www.demographia.com>
- Demographia, (2001b) France Urbanized Areas Trends from 1962. *A Top National Journal Internet Site*, Wendell Cox Consultancy, Belleville, USA. <http://www.demographia.com>
- Densham, P. and Rushton, G., (1988) Decision Support System for Locational planning. In Behavioural Modeling in Geography and Planning, eds. G Golledge, and H Timmermans, Pp 56-90. Croom Helm, London.

- Denzin, N.K., (1970) Research Act in Sociology: A Theoretical Introduction to Sociological Methods. Aldine.
- De Vaus, D., (2001) Research Design in Social Research. Sage, London.
- Dobbin, M., (1998) Milton Keynes: The Management of New Town Growth- a Feminist Perspective. In The Best Laid Plans: Milton Keynes since 1967. Eds. M Clapson, M Dobbin, and P Waterman. University of Luton, Bedfordshire.
- Donnachie, I., (2000) Robert Owen: Owen of New Lanark and New Harmony. Tuckwell Press, Scotland.
- DRTPC (Development Research and Technology Planning Centre), (1996) Master Plan of Shekh Zayed: Basic Studies. Cairo University. Cairo.
- Dwyer, D.J., (1974) The City in the Third World. Macmillan, London.
- Elgendi, H., (2004) Cairo Megacity-Mega Problems. Institute for Landscape Planning at Karlsruhi University.
- El-Mallakh,R., (1982) Saudi Arabia: Rush to Development. Groom Helm, London.
- Evans, H., (1972) New Towns: The British Experience. Knight and Co. Ltd, London.
- Faludi, A., (1973) A Reader in Planing Theory.Oxford.
- Fournier, J.J., (2001) Lessons of a Success, Questions for the Future. In Planned Communities in a Polycentric Europe, Inclusive New Towns. International Conference Organized by Municipality of Almere, Province of Flevoland. NIROV (April 2001), The Netherlands.
- Fowler, F.J., (1993) Survey Research Methods, 2nd ed. Sage. Newbury Park, Calif.
- GeoHive (2002) Historical, Current and Future Population. U.S. Bureau of the Census, International Data Base. <http://www.geographic.org>
- George, D., and Mallery P., (2003) SPSS for Windows: Step by Step, A Simple Guide and Preference. 4th ed. Pp 105-114. Pearson Education, Inc. U.S.A
- Gillespie, K., (1984) The Tripartite Relationship: Government, Foreign investors and Local Investors during Egypt's Economic Opening. New York.
- Hall, P., (1975) Urban and Regional Planning. Allen and Unwin, London.
- Hamaizia, M., (1989) Evaluation of New Towns in the Context of a National Human Settlements Strategy for Algeria. M.Phil Thesis, South Bank University, London.
- Hamblin, P.C.M., Horne, M. and Nias, P., (1975) A Paper Presented at the Eighteenth Annual Conference of the Market Research Society, March, 1975. Martin- Hamblin Research, London.

- Hantoosh, A.H., (1993) New Sharika Town, In Research and Practical Studies On Arab and Foreign New Towns, ed. M.K Rabee, and T.A Abo Al-Atta Pp 147-151. *New Towns Symposium Vol 4*. Arab Urban Development Institute. (In Arabic)
- Henderson, V., and Kuncoro, A.,(1996) Industrial centralization in Indonesia. *World Bank Econ. Rev. 10*, pp.513-540.
- Healey, P., Macdougall, G. and Thomas, M.J., (1982) Planning Theory: Prospects For the 1980s. Headington Hill Hall, Oxford.
- Henry, G.T., (1990) Practical Sampling. Sage.
- Hirsch, B., (1993) Several Innovations in New Towns, In 25 Years of French New Towns. Ministry of Public Amenities, Housing, Transport and Maritime Affairs. Economic Interest Group (translated by Alan Lee), Paris.
- Hussaini, F., and Shekh, F.A.B., (1986) Industry in Egypt 2000: Industrial Policies and Regional Distance Effectiveness. Pp.38-41. National Planning Institute, Cairo. (in Arabic)
- IIED (International Institute for Environment and Development), (2000) The Potentials and Limitations of Partnerships for Sustainable Cities (October2000). *Environment and Urbanization Vol 12 No 2* , London.
- INTA (International New Towns Association), (1981) Financing, Organizing and Managing Planned Urban Development in New and Renewing Communities. Fifth Annual Conference (August1981). International New Towns Association.
- Interreg 2c NWMA, (2000) Inclusive New Town Project. <http://newtowns/03-publication/french-nts.htm>
- Jamal Aldeen, S., (2002) Egypt Population had Reached 67.8 Million. Reportage with Ehab Elwi, Manager of CAPMAS, *Ahram News, Feb.2002 No.42087*. (In Arabic)
- Jankowski, J., (2000) Egypt: a Short History. Oneworld, England.
- IRUP (Institute of Regional and Urban Planning), (1987) New Communities: A Comparative Study of the Actual and Theoretical Thought. Cairo University, Cairo. (In Arabic)
- Kharoufi, M., (1995) Urbanization and Urban Research in the Arab World. Management of Social transformation (MOST), Unesco, Discussion paper Series- No 11.
- Lall, S., Shalizi, Z., and Deichmann, U., (2004) Agglomeration Economies and productivity in Indian Industry. The World Bank, Washington DC, 20433.
- Leeuwen, L., (2001) Sustainability and Growth in New Towns: New Towns are Instrument for Territorial Cohesion. In Planned Communities in a Polycentric Europe,

Inclusive New Towns. International Conference Organized by Municipality of Almere, Province of Flevoland. NIROV(April 2001) The Netherlands.

Letchworth Garden City Corporation Act, (1962) Letchworth Garden City. Majesty's Stationery Office, London.

Lèspes, R., (1980) L' Evolution des Idée sur L' Urbanisme Algerois de 1830 à nos jours. In HCA, Les Villes du Tiers Monde. Textes Choisis par Alberto Arecchi, EPAU, Algiers. (In French).

Ling, A. and Arnold, V.A., (1967) Runcorn New Town Master Plan. Hawlhornes of Nottingham Ltd, Nottingham.

Liverpool City Council (1991) Results of Household Survey. Liverpool City Council.

London County Council, (1961) The Planning of a New Town: Date and Design on a Study for a New Town at Hook, Hampshire. England.

Mano, Y. and Otsuka, K., (2000) Agglomeration Economies and Geographical Concentration of Industries. Faculty of Economics, Tokyo Metropolitan University, Hachiohji, Tokyo.

Masser, I., (1986) Some Methodological Considerations. In Learning from other Countries, eds. I Masser and R Williams. Geo Books, Norwich.

Merlin, P., (1969) New Towns: Regional Planning and Development. Methuen and Co. Ltd, London.

Merlin, P., (1993) The Origins of Development of the New Towns, In 25 Years of French New Towns, ed. J.E Roullier Ch I-3. Ministry of Public Amenities, Housing, Transport and Maritime Affairs. Economic Interest Group (translated by Alan Lee), Paris.

Michel, J. and Warnier, B., (1993) From Regional Planning to the Design of Individual Blocks. In 25 Years of French New Towns. Ministry of Public Amenities, ed. J.E Roullier Ch III-I. Housing, Transport and Maritime Affairs. Economic Interest Group (translated by Alan Lee), Paris.

Military Survey Administration, (2001) Egypt and the world Atlas, Pp.184 –218. Ministry of Defence, Cairo, Egypt. (In Arabic)

Milton Keynes Development Corporation, July (1977) Milton Keynes: Seven Years on, The Summery Report of the 1976 Household and Employers Surveys. Milton Keynes Development Corporation.

Milton Keynes Development Corporation, (1978) Milton Keynes: About the City. Lloyd Northover Limited, London.

Ministry of Agriculture and Land Reclamation, (1982) National Urban Development Policy, Final Report, Cairo. (In Arabic)

-
- Ministry of Housing, (1970) General Primary Planning of Greater Cairo Region. Planning and Implementation Centre, Cairo. (In Arabic)
- Ministry of H.U.NUC (Ministry of Housing, Utilities and New Urban Communities), (1979) Five-Years Plan for Development and New Communities 1978-1982. Cairo, (In Arabic)
- Ministry of H.U.NUC, (1984) New Towns in the Greater Cairo Urban Region, First Report. Cairo. (In Arabic)
- Ministry of H.U.NUC, (1989) New Towns: Illuminating Marks on the Map of Egypt. M.H.U.NUC, Cairo. (In Arabic)
- Ministry of H.U.NUC, (1991) Urban Growth in Greater Cairo. M.H.U.NUC ,Cairo. (In Arabic)
- Ministry of H.U.NUC, (1993) Constructions, New Urban Communities, Housing and Infrastructure in Egypt. M.H.U.NUC, Cairo. (In Arabic)
- Ministry of H.U.NUC, (1998) New Urban Communities Authority Guide: List of Rules and Decrees until 1998. Ministry of H.U.NUC, Cairo. (In Arabic)
- Ministry of H.U.NUC, (2000a) Greater Cairo Atlas. Cairo, Egypt. (In Arabic)
- Ministry of H.U.NUC, (2000b) Moobarak and Development: Achievements at Present and Dreams of Future. Cairo, Egypt. (In Arabic)
- Ministry of TP.C.H (Ministry of Town Planning, Construction and Housing), (2001) Presentation of AADL in Algeria. [http:// www.aadl.com.dz/Anglais.htm](http://www.aadl.com.dz/Anglais.htm)
- Mohanna, M.I., (1993) Jubail Industrial City: Planning and Development. *New Towns Symposium Vol 2*, Pp173-198. Arab Urban Development Institute. (In Arabic)
- Morgan, D.L., (1998) Focus Group Guidebook. Sage.
- Muselahi, F.M., (1988) The Evolution of the Egyptians Capital Greater Cairo: The Urban Growth Experiment from 4000 'before birth A.C.' till 2000 'after death A.D.', Cairo University Press, Egypt. (In Arabic)
- Nakamura, R., (1985) Agglomeration Economies in urban Manufacturing Industries: A Case of Japanese Cities. *J. Urban Econ.*17, 108-124.
- NUCA (New Urban Communities Authority), (1983) Implementation and Financing Plan, Third Report. Vol 5, Pp. 64-70. M.H.U.NUC, Cairo. (In Arabic)
- NUCA, (1996a) Badr Town: General Plan. M.H.U.NUC, Cairo. (In Arabic)
- NUCA, (1996b) Badr Town: Detailed Studies of Master Plan, Third Report, M.H.U.NUC, Cairo. (In Arabic)

- NUCA, (1996c) New Communities in Egypt: Twenty Years of Development 1976-1996. M.H.U.NUC, Cairo. (In Arabic)
- NUCA, (1998) Promotion and Development Map of Egypt Arab Republic until 2017. M.H.U.NUC, Cairo, Egypt. (In Arabic)
- NUCA, (2001) Shekh Zayed New Town: Annual Report. Ministry of H.U.NUC, Cairo, Egypt. (In Arabic)
- NUC.IC (New Urban Communities Information Centre), (1998) Shekh Zayed Town. Ministry of H.U.NUC, Cairo, Egypt. (In Arabic)
- Osborn, F.J., and Howard, E., (1944) Garden Cities of T-Morrow. Faber and Faber Ltd, London.
- Osborn, F and Whittick, A., (1963) The New Towns: The Answer to Megalopolis. Leonard Hill, London.
- Osman, O.M., (2002) New Five year Plan and Distribution of National Investments. Reportage with Financial Affairs Minister. *Ahram News*, May 2002 No. 42161, Cairo. (In Arabic)
- Perloff, H.S., and Sandberg, N.C., (1972) New Towns: Why – And for Whom? Praeger Inc, London.
- Ploegaerts, I., (1993) French New Towns and Urban Innovation: An Outline Assessment, In 25 Years of French New Towns. Ministry of Public Amenities, Housing, Transport and Maritime Affairs ChI-1. Economic Interest Group (translated by Alan Lee), Paris.
- PMC, (2002) Renovation and New Build Tackle Home Shortage. (Nov.2002) PMC Ltd, London. <http://www.pmcomm.com/algeria/index.htm>
- Pressman, N.E.P., (1978) Canadian New-Town Policy. In International Urban Growth Policies: New-Town Contributions, (ed.) G Golany, Pp 297-313. Wiley, Canada.
- Rahmaan, A.U. and Fadaak, T.A., (1993) New Towns as a Strategy for National Development of Saudi Arabian-Case Study. *New Towns Symposium Vol 3*, Pp39-56. Arab Urban Development Institute. (In Arabic)
- RC.GCR (Regional Centre for Greater Cairo Region), (1999) 10th of Ramadan Master Plan: Updating Report. M.H.U.NUC, Cairo.
- Rizk, A.H.F., and Rabie, M.K., (1991) An Evaluation of Housing Policies for Lower Income Groupes: the case of Egypt's New Towns, In Housing for the Urban Poor, (eds.) G Saglamer and S Özüekren. ENHR International Symposium, Istanbul, Turkey.
- Runcorn Development Corporation, (1965) Runcorn New Town: Draft Plan. Runcorn Development Corporation.

- Roche, F.L., (1977) Building a New Town. New Town Association, England.
- Roullier, J.E. (1993) The Administrative and Financial Problems of Building New Towns in The Paris Region In 25 Years of French New Towns, (ed.) J.E Roullier Ch II-I. Ministry of Public Amenities, Housing, Transport and Maritime Affairs. Economic Interest Group (translated by Alan Lee), Paris.
- Royal Commission for Jubail and Yanbu, (1988) Economic Annual Report for Jubail and Yanbu. Riyadh, Saudi Arabia. (In Arabic)
- Rubenstein, J.M., (1978) The French New Towns. The John Hopkins Press Ltd, London.
- Salah, N.M., (1999) Towards Improving and Organizing Implementation Capability of New Urban Communities. Ms.c Thesis, University of Cairo, Egypt. (In Arabic)
- Saudi Arabian Information Resource, (2001a) Jubail and Yanbu: The Industrial Cities. [http:// www.saudinf.com](http://www.saudinf.com)
- Saudi Arabian Information Resource, (2001b) Royal Commission for Jubail Industrial City. [http:// www.rcjubail.gov.sa](http://www.rcjubail.gov.sa)
- Sbandi, F.; Amadeo, G.; and Rihosek, M., (1982) A New Town For the Algerian Highlands: Ain Oussera Ville Nouvelle. Summary Report on the New Town Project of Ain Oussera in Algeria 1980-1982, *Approche a L'aménagement des Hautes Plaines*. Ministère de L'Enseignement Supérieur et de la Recherche Scientifique, Italy.
- Schaffer, F., (1970) The New Towns Story. Richard Clay Ltd, England.
- Shammot, M.H. (1993) The Creation of Dummar City in Damascus: The Preparatory Programme of this City In Research and Practical Studies On Arab and Foreign New Towns, (ed.) M.K Rabee, and T.A Abo Al-Atta Pp 235-276. *New Towns Symposium Vol 4*. Arab Urban Development Institute. (In Arabic)
- Schubert. D., (2004) Fritsch and the German (vlkische) Version of the Garden City: the Garden City Invented Two Years Before Ebenezer Howard. In *Planning Perspectives Vol. 19, No.1 January 2004*. Pp 3-35. Routledge, part of the Taylor and Francis Group.
- Sh. Z.T.C (Shekh Zayed Town Council), (2001) Shekh Zayed New Town: Executive Summery. Ministry of H.U.NUC, Cairo, Egypt.
- Silverman, D., (2001) Interpreting Qualitative Data: Methods for Analyzing Talk, Text and Interaction (2nd ed). Sage.
- Soisson, M., forword by Hall, D., (1988) Welwyn Garden City: A Town Designated for Healthy Living. Cambridge University Press, Cambridge.
- Sosmeña, G., (2002) Mega cities in Asia. http://www1.kas.de/international/konferenz02-06-17/sosmena_en.html

- Stead, G., (1999) The Moravian Settlement at Fulneck 1742-1790. Thoresby Society, Leeds.
- Stevenage Borough Council, (1981) Stevenage into the Eighties: Stevenage District Plan, Topic Report. Manulife House, St George's Way, Stevenage.
- Stewart, D.J., (1996) Cities in the Desert: The Egyptian New-Town Programme. *Association of American Geographers*, 86(3), pp.459-480. Blackwell, Cambridge.
- Style, J., (1990) Titus Salt and Saltaire: Industry and Virtue. Salts Estates Ltd, west York Shire, England.
- Sutton, k. and Fahmi, W., (2001) Cairo's urban Growth and Strategic Master Plans in the Light of Egypt's 1996 Population Census Results. *Cities*, Vol.18, No.3, Pp.135-149. Manchester University, England.
- SWECO and Zeitoun, Sh., (1976) Tenth of Ramadan New Industrial City: Working Paper Vol.1 . Ministry of Housing, Cairo.
- SWECO (Sweden and Cairo Organization), (1983) Tenth of Ramadan New Industrial City Growth Plan 1982: Final report prepared for the Research Studies Organization of the Ministry of Development. Cairo.
- Taylor, N., (1998) Urban Planning Theory since 1945. Sage, London.
- Thomas, R., (1969) London's New Towns: A Study of Self-Contained and Balanced Communities. Vol. xxxv April 1969. P E P, London.
- Thomas, R. (1978) Britain's New Town demonstration Project. In International Urban Growth Policies: New-Town Contributions, (ed.) G Golany Pp 23-36. Wiley, Canada.
- Tidd, M., (1997) An Inquiry into Post-War New Towns in Britain: Were the New Towns of 1940s and 1950s a Success or a Series of Missed Opportunities, Ch1. Michael Crawley online. <http://www.crawley-online.eurobell.co.uk/>
- Tlemçani, p., (1986) State and Revolution in Algeria. Zed Books Ltd, London.
- Tth OR. T.C (Tenth of Ramadan Town Council), (2000) Tenth of Ramadan Updating Report. M.H.U.NUC, Cairo.
- Tzonis, A. (2001) Le Courbusier: The Roetics of Machine and Metaphor. Thames and Hudson ltd, London.
- United Nations, (1994) World Urbanization Prospects. The 1994 Revision. New York.
- UNCHS (United Nations Centre for Human Settlements) (Habitat), (2001a) Recent Trends in the Human Settlements Conditions of the World's Urban Poor, Ch IV. Nairobi.

UNCHS (Habitat), (2001b) Best Practices for Human Settlements in Cooperation with: UNCHS 2001, Shelter Upgrading in Agadir. Morocco, Nairobi.

UNCHS, (2001c) Population of Cities to Explode in Developing Countries. *Nation's Health*, Vol.31 Issue 7.

Walker, D., (1982) The Architecture and Planning of Milton Keynes . Architectural Press Ltd, London.

Wellings, R., (1977) Living in A New Town. New Towns Association, England.

Win Kok, (2001) European New Town Platform Special. http://www.inta-aiivn.org/Newsletters/2001E/ENTP_Special.pdf

Wyndham, T., (1999) The New Towns in England. Cambridge New Towns Corporations PLC, Cwmbran, Wales. <http://www.newtowns.net>

Yin, R.K., (1994) Case Study Research: A Design Methods. Vol 5. 2nd ed. Sage.

Yousry, M.and Aboul Atta, T.A., (1997) The Challenge of Urban Growth in Cairo. In The Urban Challenge in Africa: Growth and Management of its Large Cities, ed. C. Rakodi Pp 111-149. United Nations University Press, Tokyo, New York, and Paris.

Yuen, B., (2000) Urban Development and New Towns in the Third World, *Urban Studies*, Vol 37 Issue 11, Pp21-26.

Appendix 1:

Questionnaire Survey (in English)

Questionnaire Survey

Name of town: _____

Note: This section to be filled by the Researcher or the person representing her.

Dwelling Type:

- Low-income level dwelling ☐
Middle-income level dwelling ☐
Upper middle-income level dwelling ☐
Upper-income level dwelling ☐

Location of dwelling in the new town (within neighbourhood): _____

Current condition of building from outside:

Poor ☐ Average ☐ Good ☐

Dwelling current condition from inside:

Poor ☐ Average ☐ Good ☐

Design of Building from outside:

Traditional ☐ Modern ☐ Mixed Style ☐

Dwelling Parking:

Available ☐ Not available ☐

Other Comments:

Please answer by (✓) the following questions:

Type and Mix of Housing

1-How long have you been living in this town?

0-1 year ☐ 1-2 years ☐ 2-5 years ☐
 5-10 years ☐ 10-15 years ☐ 15 or more ☐

* Choosing for example 1-2 years category means: from 1 to less than 2 years.

2- What were the reasons for moving to this town?

Employment reasons (for a better job, better income) ☐
 Dwelling reasons (for a better or cheaper home) ☐
 Social reasons (to be nearer to relatives or friends) ☐
 Environmental reasons (for a pleasant or healthier environment) ☐

3-Are you comfortable in this town as a whole or the previous town you lived in was better?

This town is better ☐ Previous town is better ☐

4-why do you say that?

5-Are you comfortable in your present dwelling or your previous dwelling was better?

This is better ☐ Previous is better ☐

6-Why do you say that?

7-How would you rate the characteristics of your home?

	V.Unsatisfactory	Unsatisfactory	Satisfactory	Good	V.Good
Size					
Number of rooms					
Suitable to your life style					
Convenient location					
Home condition					
Local environment					
Neighbours					

8-If your dwelling is rented or you pay mortgage instalment, so do you feel that the monthly instalment you pay is reasonable in relation to your income?

- Very reasonable ☐
 Fairly reasonable ☐
 Reasonable ☐
 Unreasonable ☐
 Very Unreasonable ☐

Economic Base and Employment Opportunities

9-To which of the following groups do you belong, according to your current job?

- Professional/Management ☐
 Skilled Labour ☐
 Unskilled Labour ☐
 Salesman ☐
 Self-employed ☐
 Others (please specify) ☐

10-Do you work in this town or you work elsewhere?

- This town ☐ Elsewhere ☐

11-Are there many job-opportunities available in this town ?

- Much more than other places ☐
 More than other places ☐
 Same ☐
 Less than other places ☐
 Much less than other places ☐

Commercial and Public Services

12-To what extent are you satisfied with local shopping facilities in this town from:

	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Neighbourhood Centre					
Town Centre					

13-To what extent are you satisfied with health services in this town?

	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Hospital					
Emergency units					
Clinics					
Pharmacies					

14-If you have children; to what extent are you satisfied with educational services in this town?

	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Kindergarten					
Primary School					
Elem. and Secon. School					
High Educ. Institutions					

15-To what extent are you satisfied with the cultural and entertainment services in this town?

	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Cultural Centres					
Entertainment Centres					
Public Parks					
Sport Clubs					

16-What service facilities do you think lacking in the town?

Provision of Transport infrastructure

17-do you own a car?

Yes ☐

No ☐

18-How do you usually go to work?

On foot ☐ Cycling ☐ By bus ☐

By car ☐ By train ☐ Other ☐

19-To what extent are you satisfied with Internal Communication networks and Internal Transport Infrastructure and Services in this town?

	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Pedestrian facilities					
Cycling facilities					
Public transport (Bus-Train)					
Highway system and Roads					

20-If you are dissatisfied or very dissatisfied, why do you say that?

21-To what extent are you satisfied with External Transport Connections to Cairo?

	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Roads and Motorways					
Trains					
Buses					

22-If you are dissatisfied or very dissatisfied, so why do you say that?

Social Relations and Local Environment Characteristics

23-Do you have any social relationships in this town other than in your home?

None ☐ Few ☐ Many ☐

24-To which of these categories are most of the people with whom you have social relations in this town belong?

- Family relations ☐
- Similar Social class ☐
- Similar Education level ☐
- Friends at work ☐
- Neighbours ☐

25- Would you describe your neighbourhood as?

Quiet	<input type="checkbox"/>	or	Noisy	<input type="checkbox"/>
Safe (crime)	<input type="checkbox"/>	or	Unsafe (crime)	<input type="checkbox"/>
Safe (traffic)	<input type="checkbox"/>	or	Unsafe (traffic)	<input type="checkbox"/>
Green	<input type="checkbox"/>	or	Not Green	<input type="checkbox"/>
Good Services	<input type="checkbox"/>	or	Poor Services	<input type="checkbox"/>
Clean	<input type="checkbox"/>	or	Dirty	<input type="checkbox"/>
Overcrowded	<input type="checkbox"/>	or	Not Overcrowded	<input type="checkbox"/>

26- In three years time, do you intend to stay in this town or move elsewhere?

This town ☐ Elsewhere ☐

27- If you intend to move, so why?

Employment reasons (Change of job place, jobs not available)	<input type="checkbox"/>
Dwelling reasons (uncomfortable at home, unable to pay monthly instalment)	<input type="checkbox"/>
Social reasons (feeling isolated and lack of social relations)	<input type="checkbox"/>
Environmental reasons (unsafe, unpleasant area and lack of green areas)	<input type="checkbox"/>

28- If you have any further comments to make about the new town or further ideas about how we can improve it, please tell us in the space below?

Thank you very much for completing this questionnaire. All information collected will be treated as confidential.

Focus Group Meeting Invitation

I am running a focus group meeting on the () of this month, at (). The meeting will last nearly 1-2 hours and it will be a discussion among neighbours on topics such as housing, employment, transport, services and other things that concern residents of this town. Results of this discussion will be treated as general opinions and no particular individuals will be named. So, would you be willing to attend it?

Yes ☐

No ☐

Appendix 2:

Questionnaire Survey (in Arabic)

مسح استبياني

اسم المدينة _____

ملاحظة: هذا لقسم من الاستبيان لا يسأل للسكان وإنما يملأ من قبل الأبحاث نفسه أو السائل البديل عنه.

نمط السكن:

- ☐ سكن من مستوى محدود الدخل
☐ سكن من مستوى متوسط الدخل
☐ سكن من مستوى فوق متوسط الدخل
☐ سكن من مستوى دخل مرتفع

موقع المسكن ضمن المجاورة السكنية في المدينة الجديدة _____

الحالة لراثة للمبنى من الخارج:

- ☐ سيئ ☐ متوسط ☐ جيد

الحالة لراثة للمسكن من الداخل:

- ☐ سيئ ☐ متوسط ☐ جيد

تصميم المبنى من الخارج:

- ☐ حديث عصري ☐ مختلط بين حديث و عصري ☐ تقليدي

كراج للمسكن:

- ☐ غير متوفر ☐ متوفر

تعليقات أخرى:

يرجى الإجابة بإشارة (✓) على الأسئلة التالية:

السكن

١- كم سنة لك تعيش في هذه المدينة؟

- ٠ - دون ١ سنة ☐ ١ - دون ٢ سنة ☐ ٢ - دون ٥ سنة ☐
٥ - دون ١٠ سنة ☐ ١٠ - دون ١٥ سنة ☐ ١٥ سنة فما فوق ☐

٢- ما هي الأسباب التي دفعتك للانتقال إلى هذه المدينة ؟

- أسباب عمل (حصول على عمل أفضل، دخل أفضل) ☐
أسباب سكن (حصول على مسكن أفضل أو أرخص) ☐
أسباب اجتماعية (لتصبح قريب من الأصدقاء و الأقارب) ☐
أسباب بيئية (من أجل بيئة نظيفة وصحية) ☐

٣- هل تشعر بارتياح أكثر في هذه المدينة ككل أم أن المدينة التي كنت تقيم فيها سابقا أفضل؟

- هذه أفضل ☐ السابقة أفضل ☐

٤- لماذا تقول هذا؟

٥- هل تشعر بارتياح في مسكنك الذي تعيش فيه أم أن مسكنك السابق أفضل؟

- هذا أفضل ☐ السابق أفضل ☐

٦- لماذا تقول هذا؟

٧- كيف تقيم موصفات بيتك من حيث؟

جيد جدا	جيد	مكتف	غير مكتف	غير مكتف جدا	
					الحجم
					عدد الغرف
					مناسبتها لنمط حياتك
					موقعه المناسب
					حالة المسكن الفيزيائية
					البيئة المحيطة
					الجيران

٨- إذا كان مسكنك مستأجر أو أنك تدفع قسط شهري لمالكه فهل تشعر أن المبلغ الذي تدفعه شهريا معقول بالنسبة لذلك؟

- ☐ معقول جدا
☐ معقول نسبيا
☐ معقول
☐ غير معقول
☐ غير معقول أبدا

الحالة الاقتصادية وفرص العمل

٩- بالنسبة لمهنتك لأي فئة من الفئات العاملة التالية أنت تنتمي؟

- ☐ عامل في المجال العلمي / الإداري
☐ عامل قتي (مصنع مثلا)
☐ عامل حرفي
☐ بائع
☐ تعمل لحسابك الخاص (تاجر)
☐ غيرها

١٠- هل تعمل في هذه المدينة أم في مكان آخر؟

- ☐ هذه المدينة ☐ مكان آخر

١١- هل هناك فرص عمل كثيرة متوفرة في هذه المدينة؟

- ☐ فرص أكثر بكثير من أماكن أخرى
☐ فرص أكثر من أماكن أخرى
☐ نفس الفرص
☐ فرص أقل من أماكن أخرى
☐ فرص أقل بكثير من أماكن أخرى

الخدمات التجارية و العامة

١٢- إلى أي مدى أنت مكثف بخدمات التسوق المحلية في هذه المدينة من حيث ؟

مكثف جدا	مكثف	غير متأكد	غير مكثف	غير مكثف أبدا

مركز المجاورة السكنية

مركز المدينة

١٣- إلى أي مدى أنت مكثف بالخدمات الصحية في هذه المدينة ؟

مكثف جدا	مكثف	غير متأكد	غير مكثف	غير مكثف أبدا

١٤- إذا كان عندك أطفال، فإلى أي مدى أنت مكثف بالخدمات التعليمية في هذه المدينة؟

مكثف جدا	مكثف	غير متأكد	غير مكثف	غير مكثف أبدا

١٥- إلى أي مدى أنت مكثف بالخدمات الثقافية والترفيهية في هذه المدينة؟

مكثف جدا	مكثف	غير متأكد	غير مكثف	غير مكثف أبدا

١٦- ما هي برأيك الخدمات الأخرى التي تنقص المدينة؟

خدمات المواصلات

١٧- هل عندك سيارة ؟

لا ☐

نعم ☐

١٨- كيف تذهب عادة إلى العمل ؟

بالبياص ☐
غيرها ☐

بالدراجة ☐
بالقطار ☐

مشيا على الأقدام ☐
بالسيارة ☐

١٩- إلى أي مدى أنت مكنت بشبكة المواصلات و خدمات النقل الداخلية في هذه المدينة ؟

مكنت جدا	مكنت	غير متأكد	غير مكنت	غير مكنت أبدا

٢٠- إذا كنت غير مكنت أو غير مكنت أبدا، فلماذا ؟

٢١- إلى أي مدى أنت مكنت بخدمات و طرق المواصلات الخارجية التي تربطك بالقاهرة ؟

مكنت جدا	مكنت	غير متأكد	غير مكنت	غير مكنت أبدا

٢٢- إذا كنت غير مكنت أو غير مكنت أبدا، فلماذا ؟

العلاقات الاجتماعية و موصفات البيئة المحلية

٢٣- هل لديك علاقات اجتماعية في هذه المدينة خارج نطاق منزلك ؟

أبدا ☐ قليل ☐ كثير ☐

٢٤- إلى أي فئة ينتمي معظم الناس الذين لك علاقات اجتماعية معهم في هذه المدينة ؟ هل هم:

- ☐ من الأقارب
- ☐ من نفس الطبقة الاجتماعية
- ☐ من نفس المستوى العلمي
- ☐ الأصدقاء في العمل
- ☐ الجيران

٢٥- هل تصنف منطقتك السكنية بأنها ؟

- | | |
|--|--|
| <input type="checkbox"/> هائلة | <input type="checkbox"/> كثرة الضجيج و الإزعاج |
| <input type="checkbox"/> أمانة (جرائم) | <input type="checkbox"/> خطرة (جرائم) |
| <input type="checkbox"/> أمانة (حركة المرور) | <input type="checkbox"/> خطرة (حركة المرور) |
| <input type="checkbox"/> فيها أماكن خضراء | <input type="checkbox"/> تتوفر للأماكن الخضراء |
| <input type="checkbox"/> خدمات عامة جيدة | <input type="checkbox"/> خدمات عامة سيئة |
| <input type="checkbox"/> نظيفة | <input type="checkbox"/> غير نظيفة |
| <input type="checkbox"/> مرصحة | <input type="checkbox"/> كثافة قليلة |

٢٦- من الآن حتى ثلاث سنوات، هل تأمل أن تبقى في هذه المدينة أم ترحل إلى مكان آخر؟

- ☐ هذه المدينة ☐ مكان آخر

٢٧- إذا كنت سترحل، فلماذا ؟

- ☐ أسباب عمل (تغيير مكان عملك، عدم إيجاد فرصة عمل هنا)
- ☐ أسباب سكن (مسكنك غير ملائم، قسطه الشهري مرتفع)
- ☐ أسباب اجتماعية (عزلة وعدم وجود علاقات اجتماعية)
- ☐ أسباب بيئية (قلة أماكن خضراء)

٢٨- إذا كان لديك أي تعليقات أو أفكار تريد أن تطرحها بالنسبة لهذه المدينة لتحسينها، يرجى تدوينها في الفراغ أسفله؟

شكراً لإكمالك الإجابة عن هذه الأسئلة، كل المعلومات المدونة سوف تستخدم وتعالج بأمانة وسرية.

دعوة لجلسة مناقشة

سأقوم بعمل جلسة مناقشة بين أفراد من سكان المدينة تاريخ () من هذا الشهر في تمام الساعة (). هذه المناقشة ستستغرق من ١-٢ ساعة تقريباً وسيجري النقاش فيها حول أمور متنوعة تخص هذه المدينة كالسكن، فرص العمل، المواصلات، الخدمات و غيرها من الأمور التي تهتم سكان هذه المدينة. خلاصة النقاش في هذه الجلسة سيتمكن كمتأنيج ووجهات نظر عامة أي أنه ليس هناك تكوين لأسماء معينة، لذا هل يودك حضور هذه

المناقشة ؟

☐ لا

☐ نعم